North Washington Street Bridge Project

Boston, Massachusetts

Charlestown Neighborhood Council Briefing

April 6, 2016

BOSTONIA CONDITA A.D. 1630

Moving Massachusetts Forward
massDOT

City of Boston: Para Jayasinghe, City Engineer

Mass DOT: Michael O'Dowd, Project Manager

Moving Massachusetts Forward.
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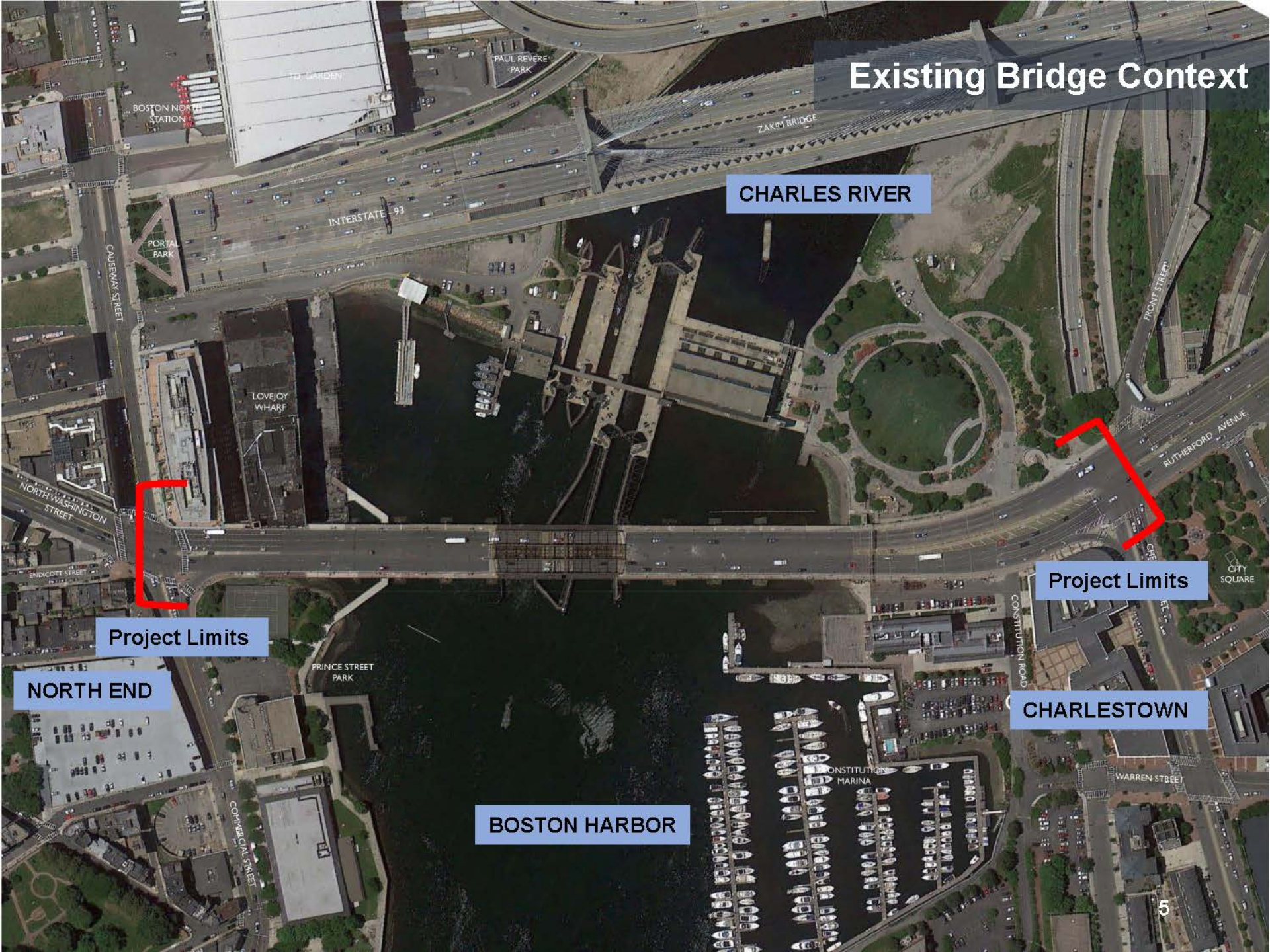
Project Team

City of Boston
Mass DOT Highway Division
Federal Highway Administration

Bridge Engineer: Benesch
Bridge Architect: Rosales + Partners
Public Involvement Specialist: Howard Stein Hudson

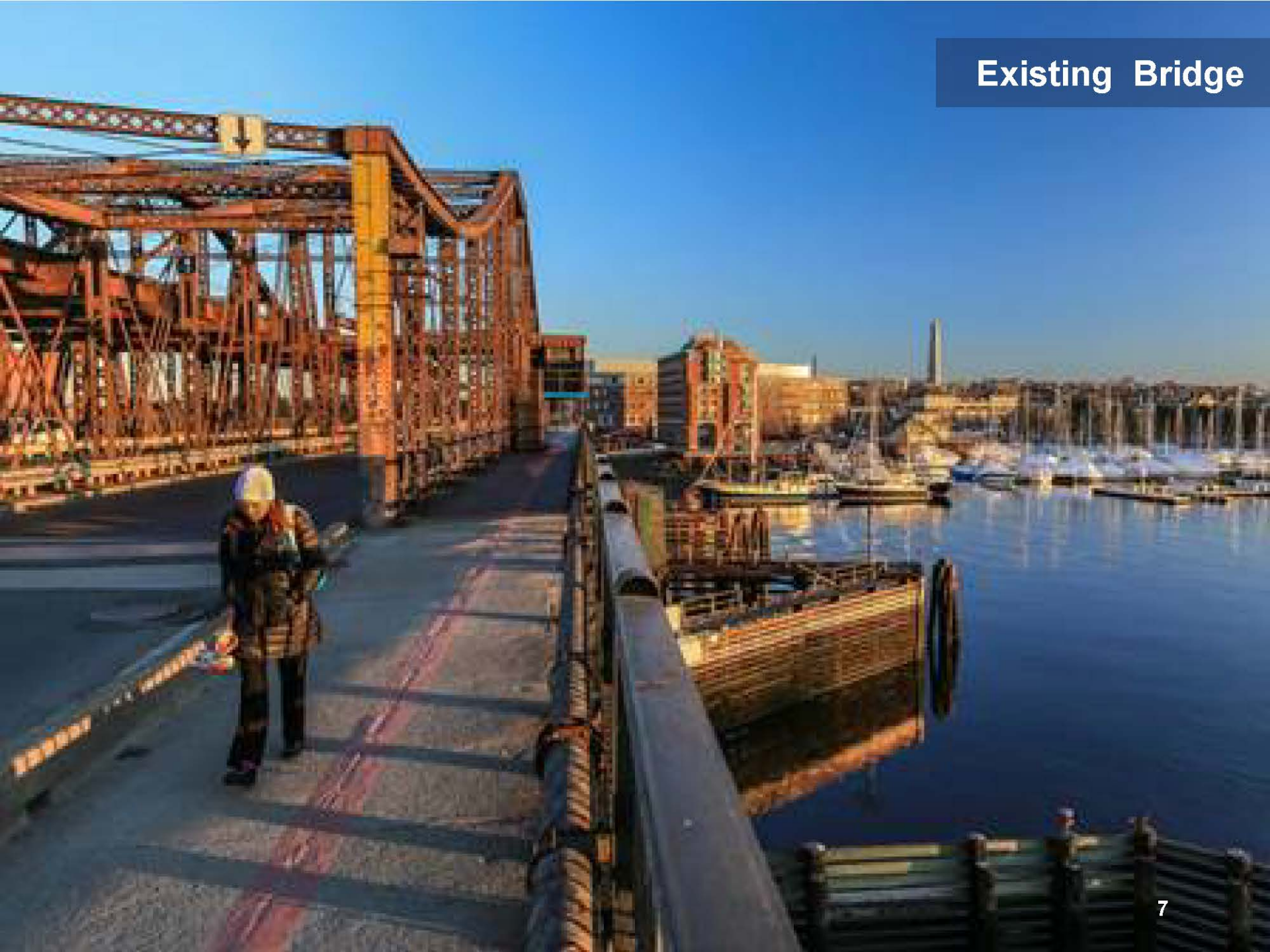

Existing Bridge
CHARLESTOWN
BOSTON HARBOR
NORTH END
NORTH WASHINGTON STREET BRIDGE
LOVEJOY WHARF
ZAKIM BRIDGE


Existing Bridge Context
CHARLES RIVER
Project Limits
Project Limits
NORTH END
CHARLESTOWN
BOSTON HARBOR
TD GARDEN
BOSTON NORTH STATION
PAUL REVERE PARK
ZAKIM BRIDGE
INTERSTATE - 93
PORTAL PARK
CAUSEWAY STREET
LOVEJOY WHARF
NORTH WASHINGTON STREET
ENDICOTT STREET
PRINCE STREET PARK
COMMERCIAL STREET
CONSTITUTION MARINA
CONSTITUTION ROAD
WARREN STREET
FRONT STREET
RUTHERFORD AVENUE
CITY SQUARE

Project History

1898 Existing Bridge Constructed - 12 spans, 1087’ in Length
1956 Bridge is Reconstructed
1961 Swing Span Closed Permanently
1977 Elevated Street Railway Structure Removed
1992 Adjoining Warehouse Bridge Structure in Charlestown is Replaced
2003 Center Truss Bay Lanes Closed
2004-2015 Ongoing Maintenance and Repairs

Existing Bridge




Existing Bridge

Existing Bridge

Project Goals

- Replacement of Structurally Deficient Bridge
- Multi-Modal Bridge as a Complete City Street over Water
- Improvements to Deficient Bike and Pedestrian Accommodations
- Improvements to Intersections Safety and Functionality
- Improvements to Navigation Channel
- Context Sensitive Bridge Design in Important Waterfront and Historic Bridge Location
- Visually Appealing Bridge Design Complementing the Zakim Bridge

Proposed Bridge – Design Philosophy

Form

Iconic

(Zakim Bridge)

vs.

Iconic-lite

(Charlestown Bridge)

Function

Interstate Highway

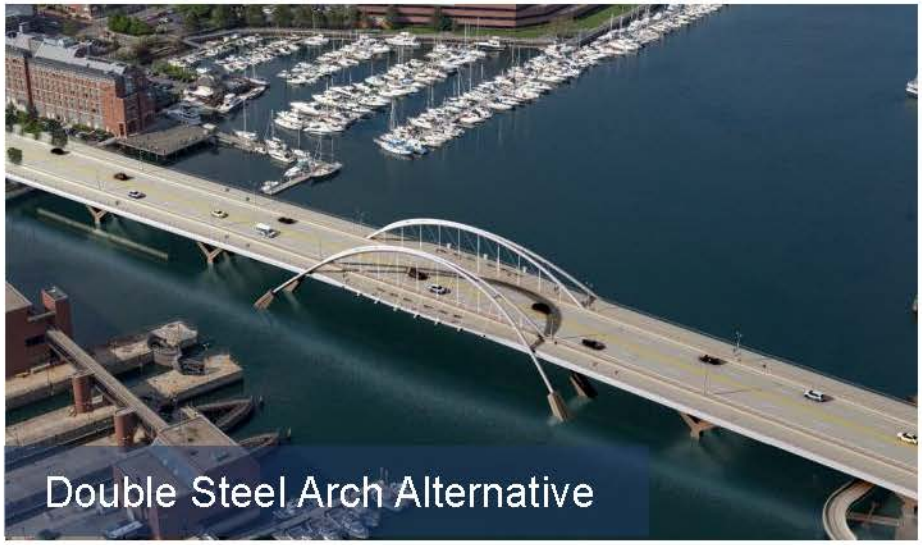
(Zakim Bridge)

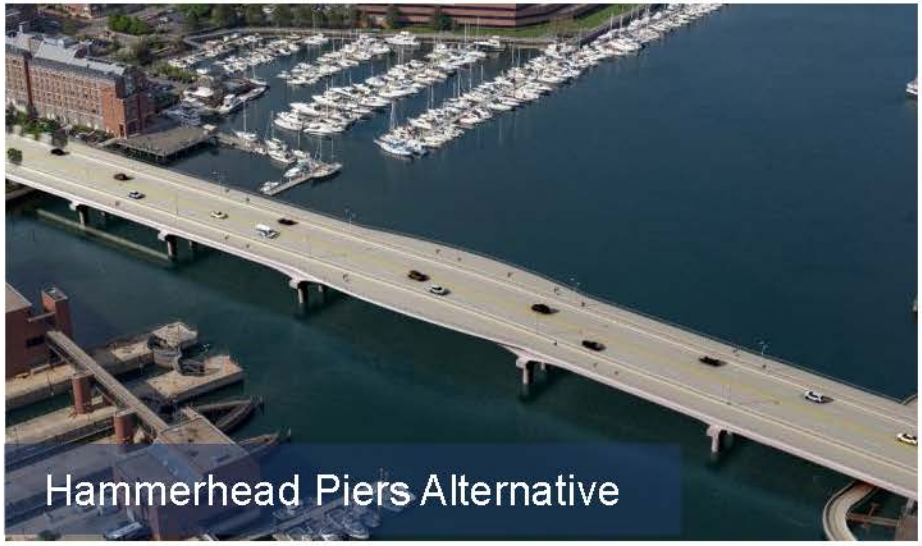
vs.

City Street over water

(Charlestown Bridge)

Bridge Type Study Alternatives





Bridge Type Selection Criteria

- Constructability
- Initial Construction Cost
- Life Cycle Maintenance Cost
- Structural Considerations
- Bridge Aesthetics
- Context Sensitive Considerations
- Environmental / Permitting

History of Public Outreach

- Meeting with DCR and Coast Guard: Spring 2014
- City of Boston Interdepartmental Briefing Including Boston Landmarks Commission: Summer 2014
- Charlestown Neighborhood Community Meeting: Fall of 2014
- North End Neighborhood Community Meeting: Fall of 2014
- Bicycle and Pedestrian Advocacy Groups Meeting Including Walk Boston, Livable Streets, and MassBike: Fall of 2014
- Charlestown Preservation Society: Winter of 2015
- Stakeholders Meetings Include Marriott Hotel, Constitution Marina, and Downtown North Association: Spring of 2015
- A Better City Transportation Committee : Spring of 2015
- Friends of City Square Park: Fall of 2015
- 25% Design Public Hearing: December 2015

Form - Zakim Bridge

Form – Existing Charlestown Bridge

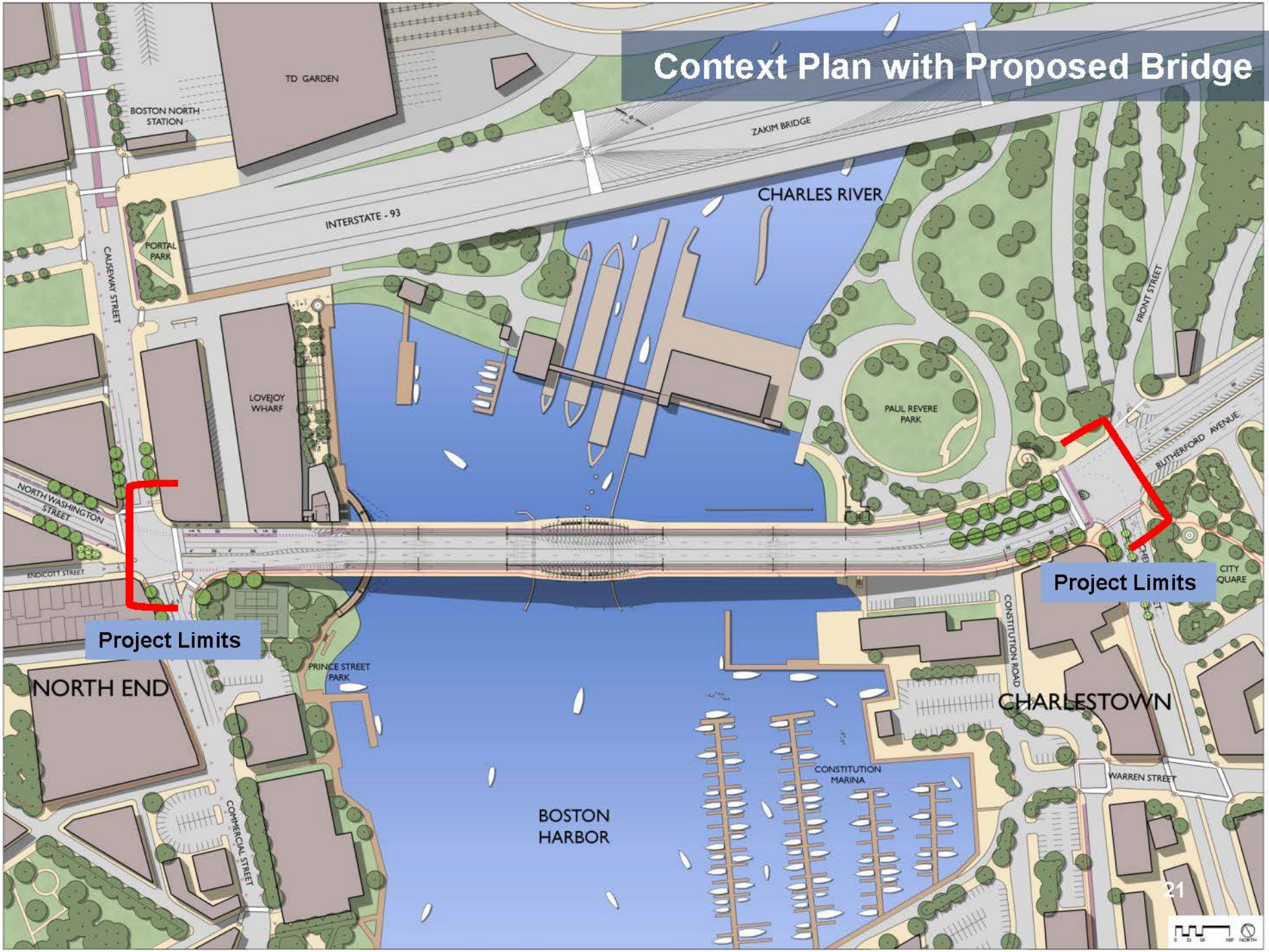
Form - Proposed Bridge Aerial View

Form - Proposed Bridge Elevation View

Function – Zakim Bridge

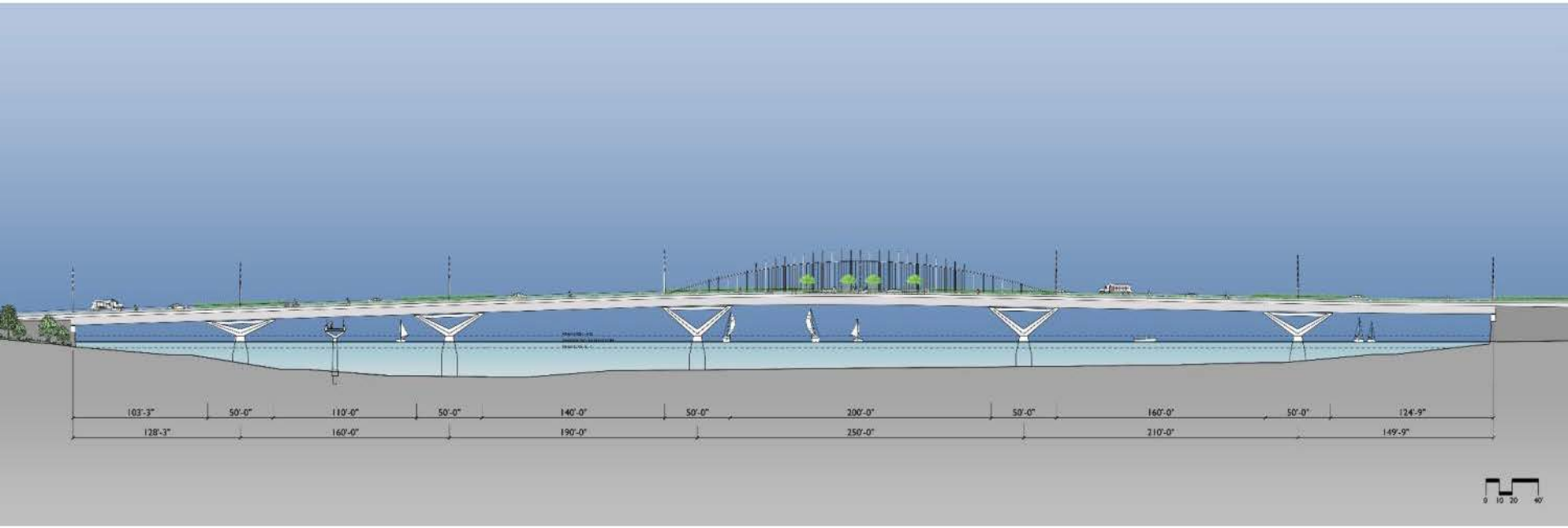
Function - Proposed Bridge

Context Plan with Proposed Bridge



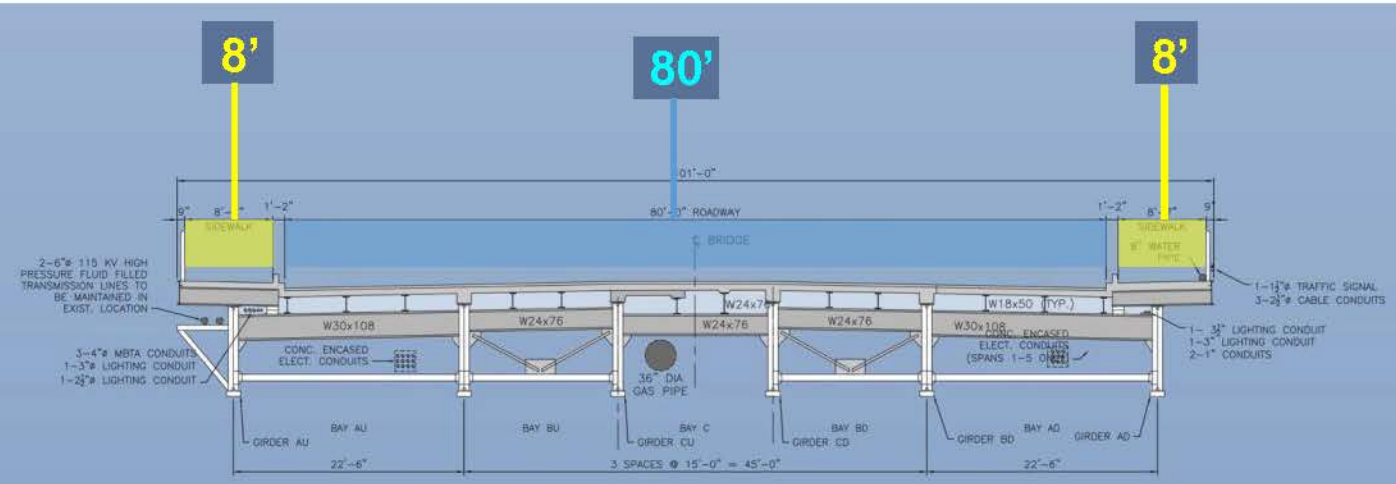
Proposed Bridge Elevation

- Constant Depth Trapezoidal Steel Box Superstructure
- Five Sets of Concrete V Piers Substructure
- Main Span 190 Feet
- Overall Length 1,087 Feet



Existing Bridge Cross Section at Approach Spans

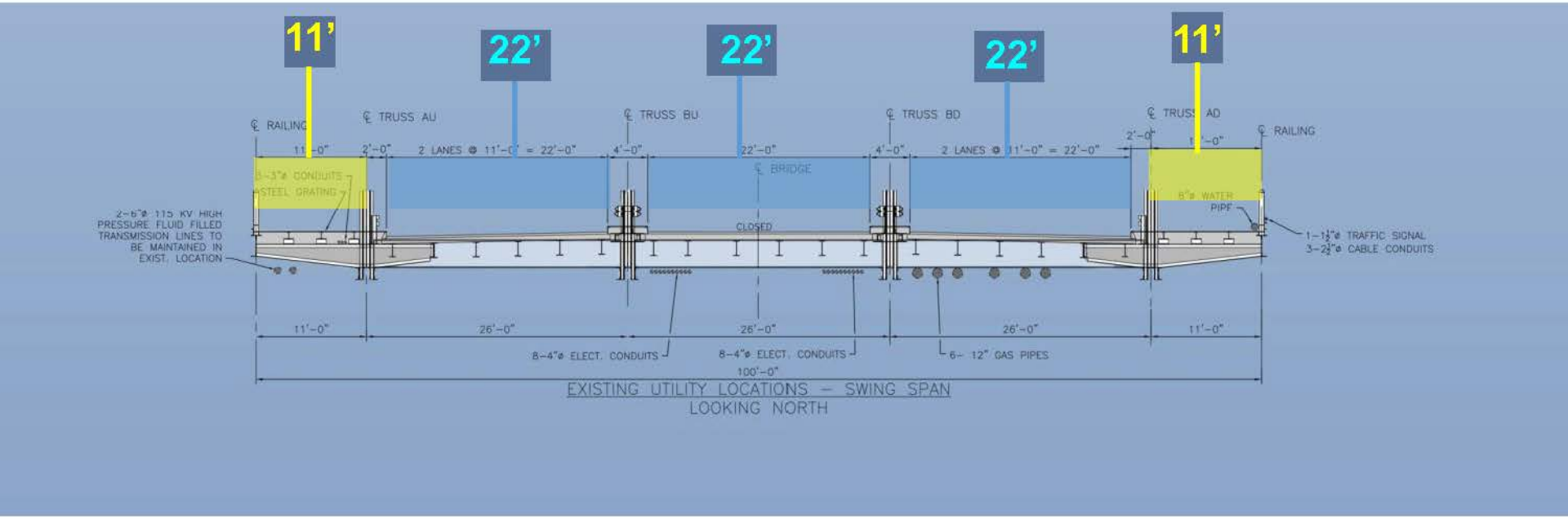
- Plate Girder Bridge
- Granite Historic Piers



EXISTING UTILITY LOCATIONS APPROACH SPANS 1 TO 4 AND 7 TO 10
LOOKING NORTH

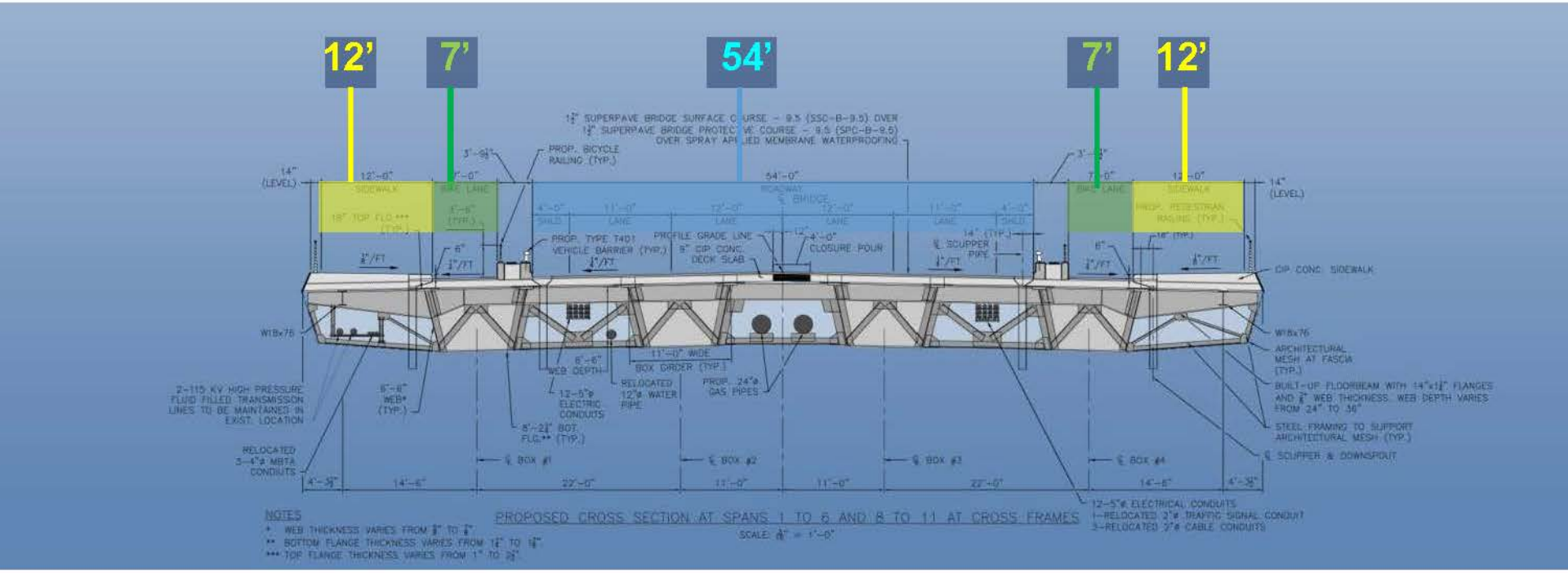
Existing Bridge Cross Section at Navigation Span

- Swing Movable Span
- Steel Truss



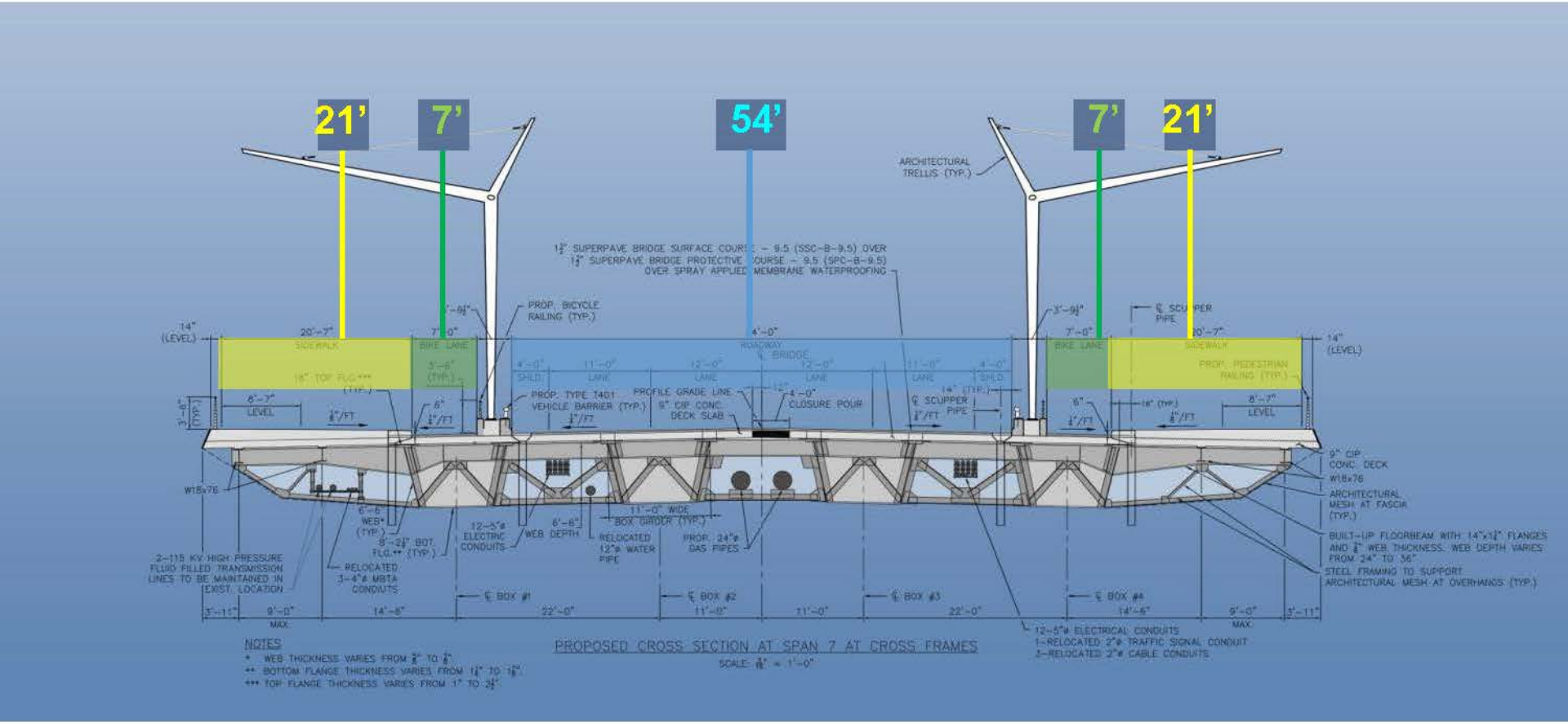
Proposed Bridge Cross Section at Approach Spans

- Wide Sidewalks
- Separated Bike Lanes
- Two Vehicular Lanes in Each Direction

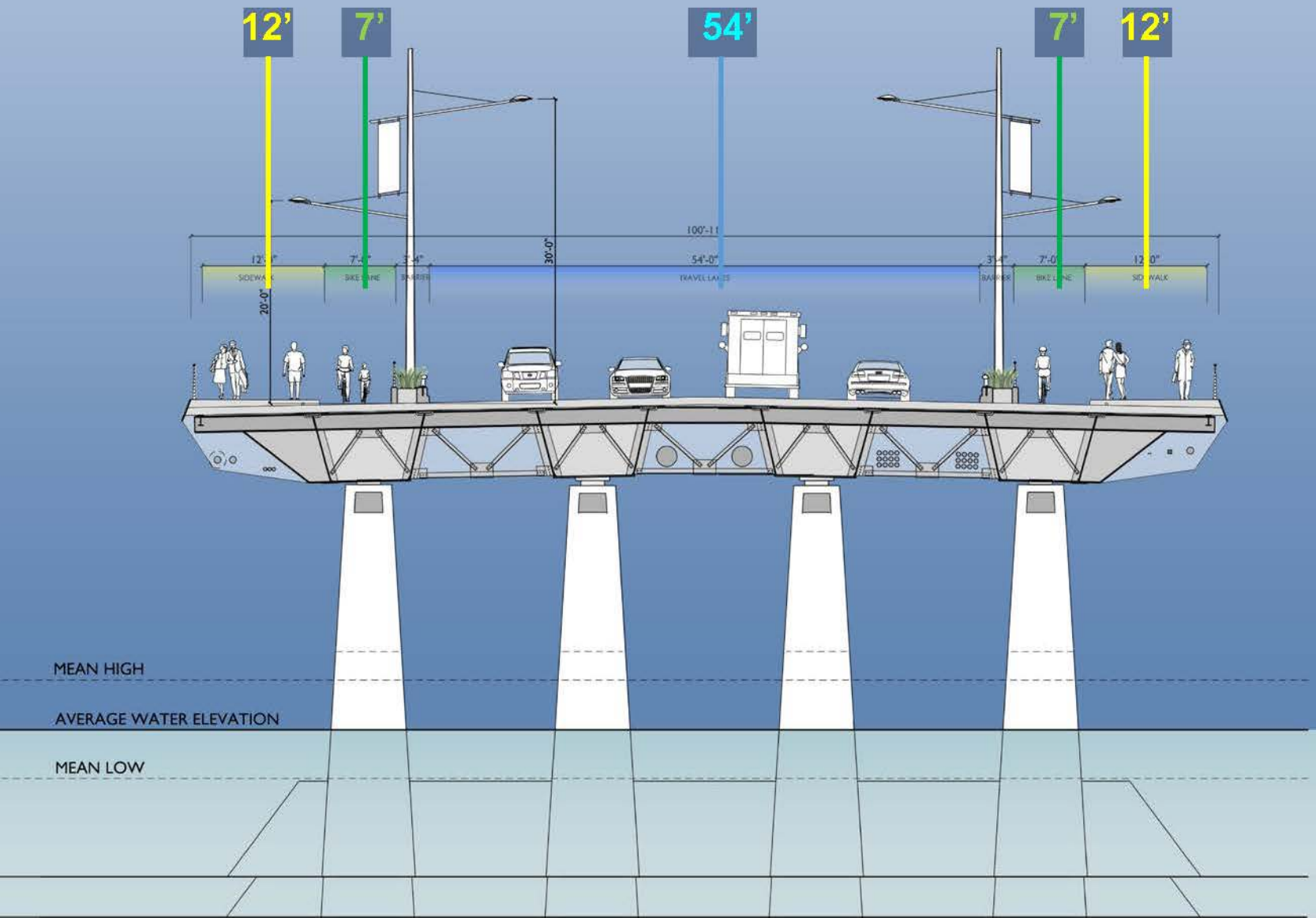


Proposed Bridge Cross Section at Navigation Span

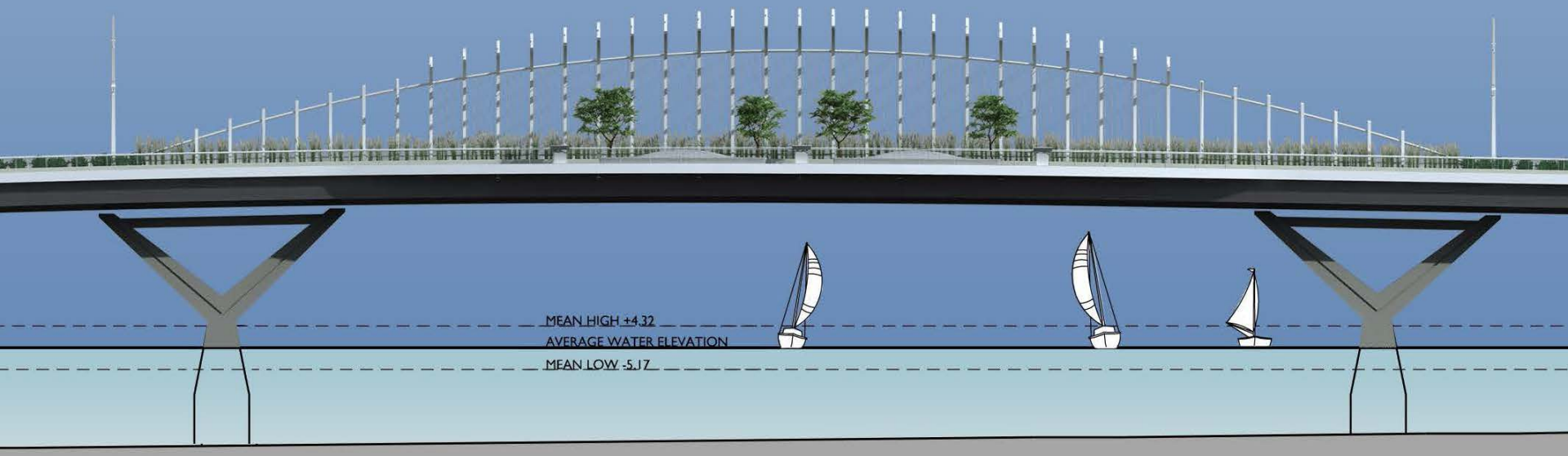
- Pedestrian Overlooks
- Architectural Trellis and Plantings



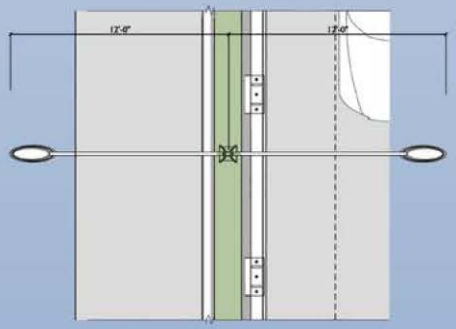
Proposed Bridge Pier Detail



Elevation of Architectural Trellis

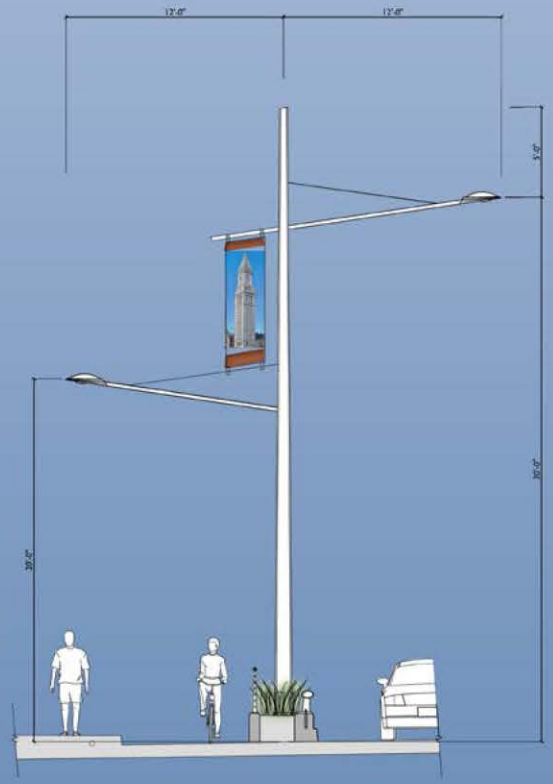


Roadway and Pedestrian Lighting



PLAN

Light Fixture



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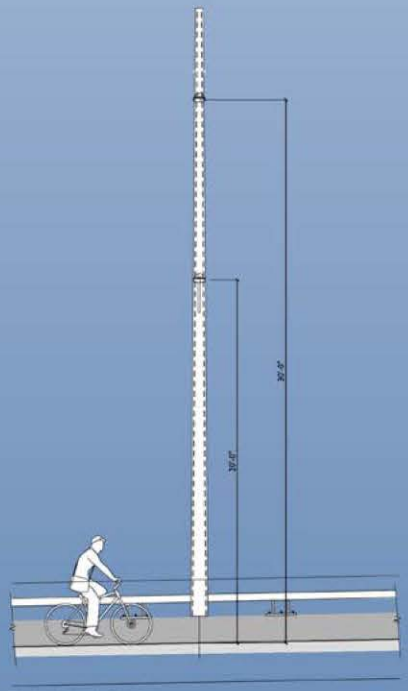
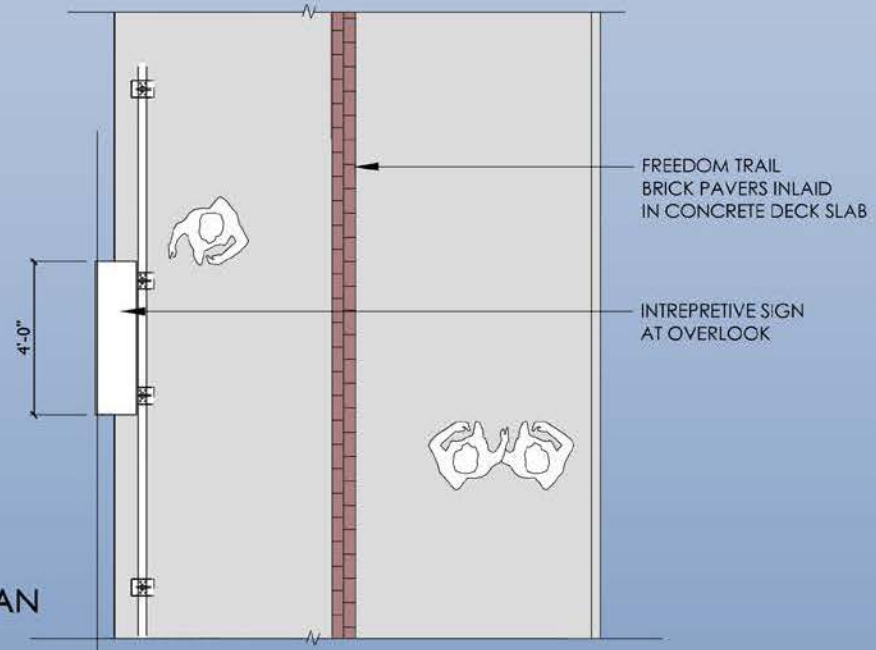
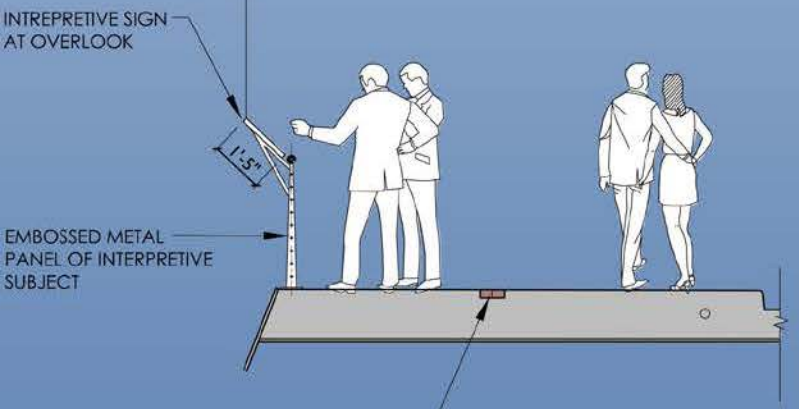


ELEVATION

Pedestrian Railing



PLAN



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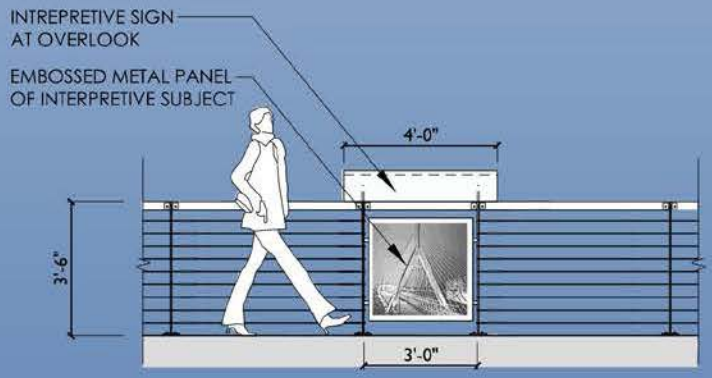


ELEVATION

Suggested Themes for Interpretive Signage

CUSTOM HOUSE TOWER

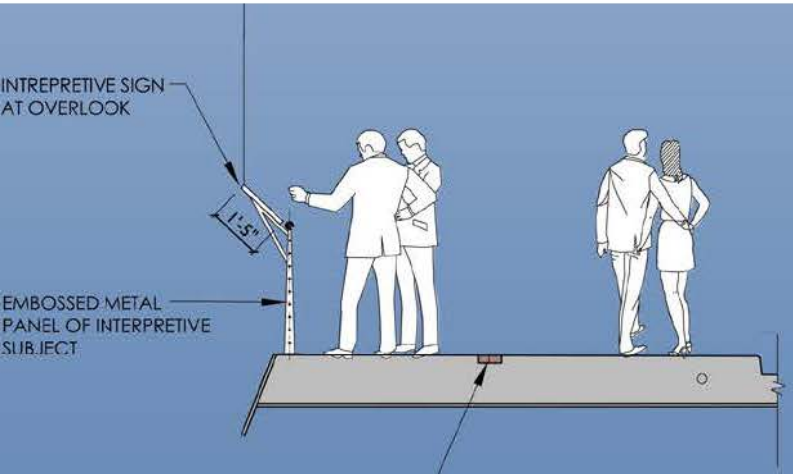
BOSTON GARDEN

ZAKIM BRIDGE

OLD NORTH CHURCH

U.S. CONSTITUTION

BUNKER HILL MONUMENT



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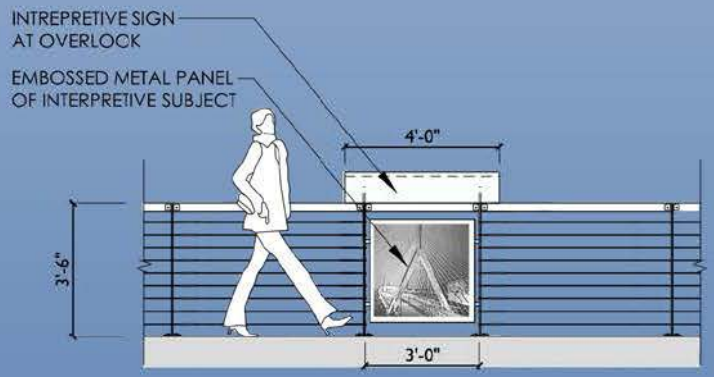
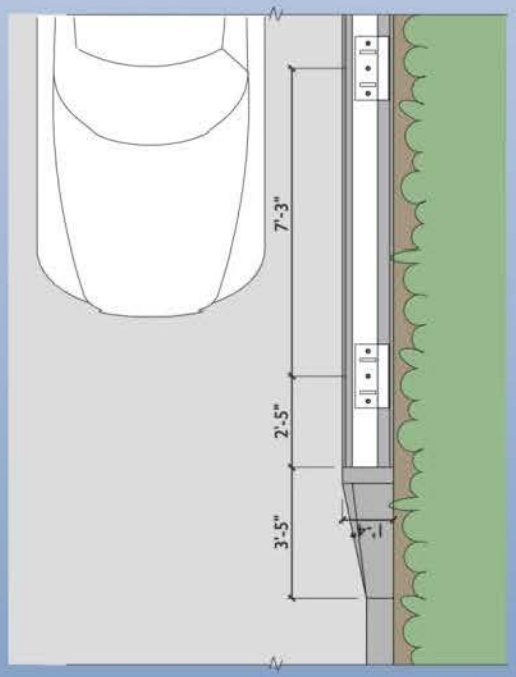
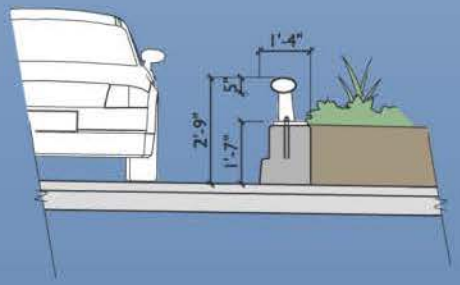


ELEVATION

Vehicular Barrier



PLAN



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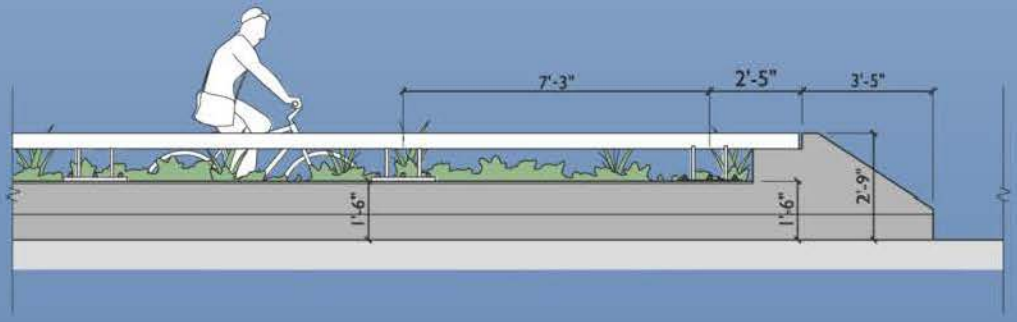


ELEVATION


3D Visualizations


Harbor Walk View

Harbor View

Pedestrian View


Pedestrian View


Motorist View

Motorist View


Pedestrian View at Overlook


Pedestrian View at Overlook

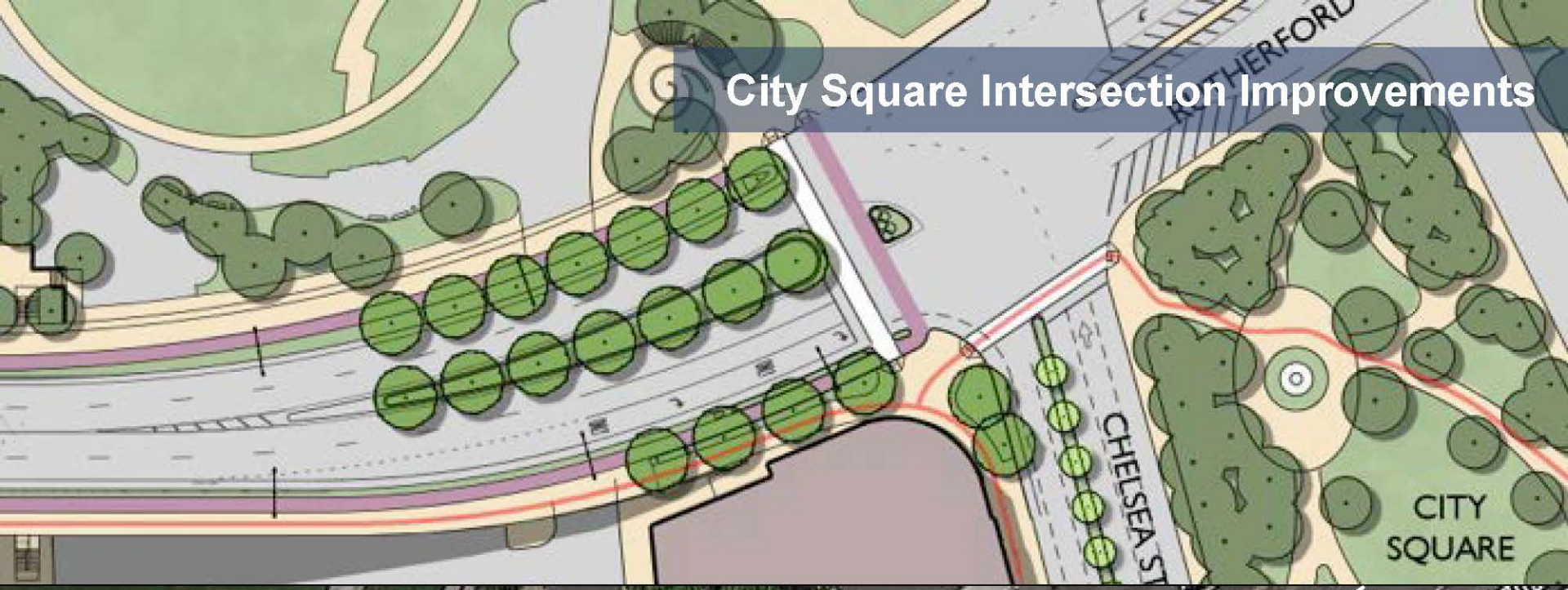
Pedestrian View at Grade Separated Walkway

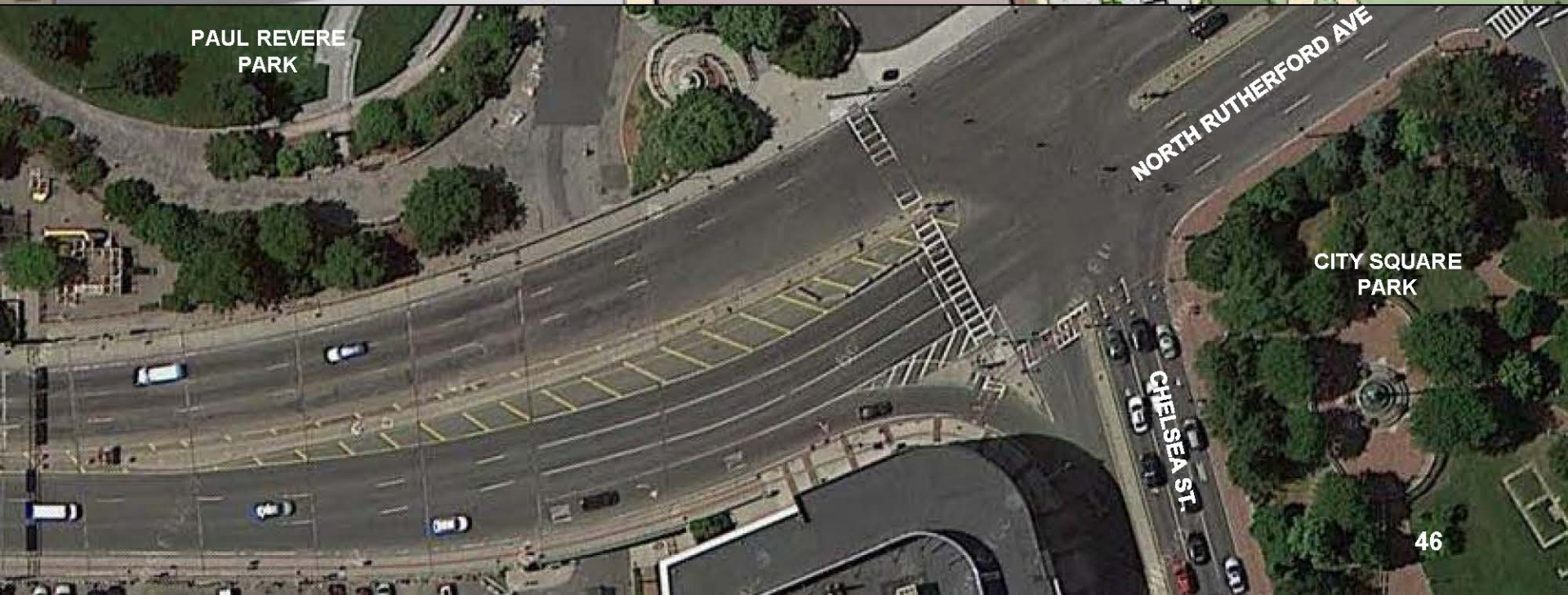
Proposed Bridge Underside View

Proposed Bridge Night Elevation View

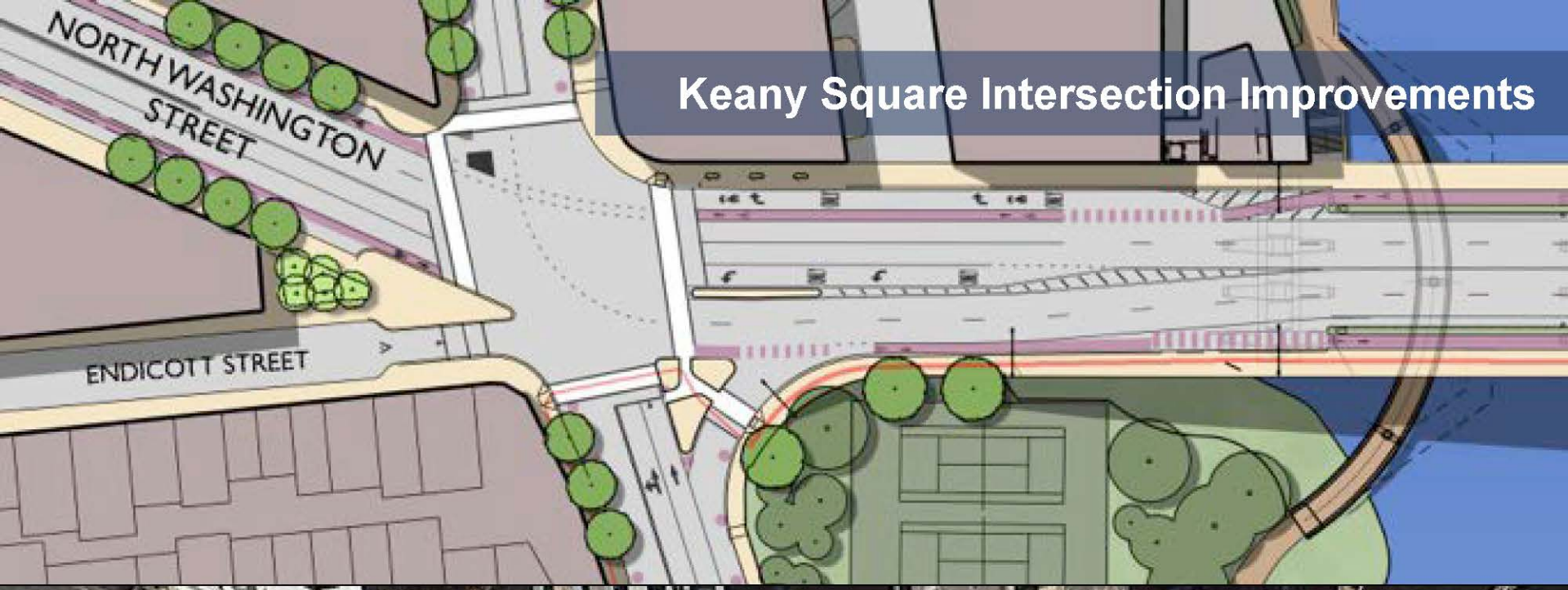
Connectivity Improvements

City Square Intersection Improvements





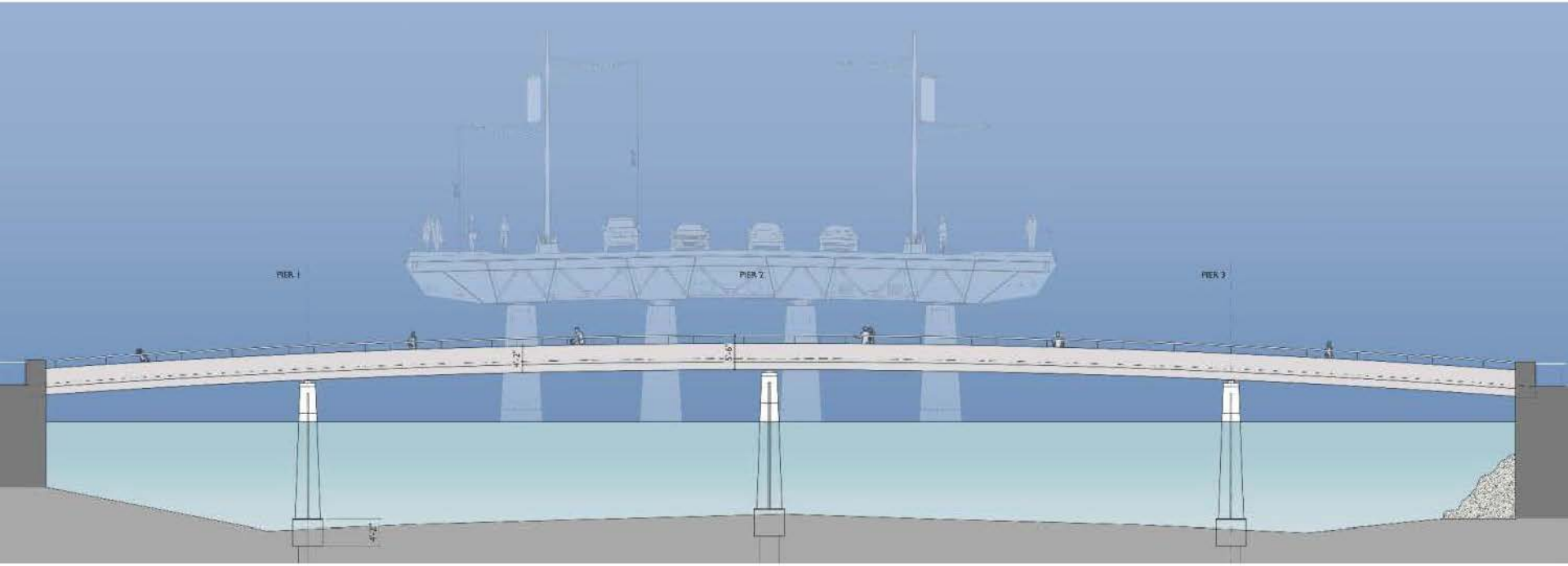
Keany Square Intersection Improvements



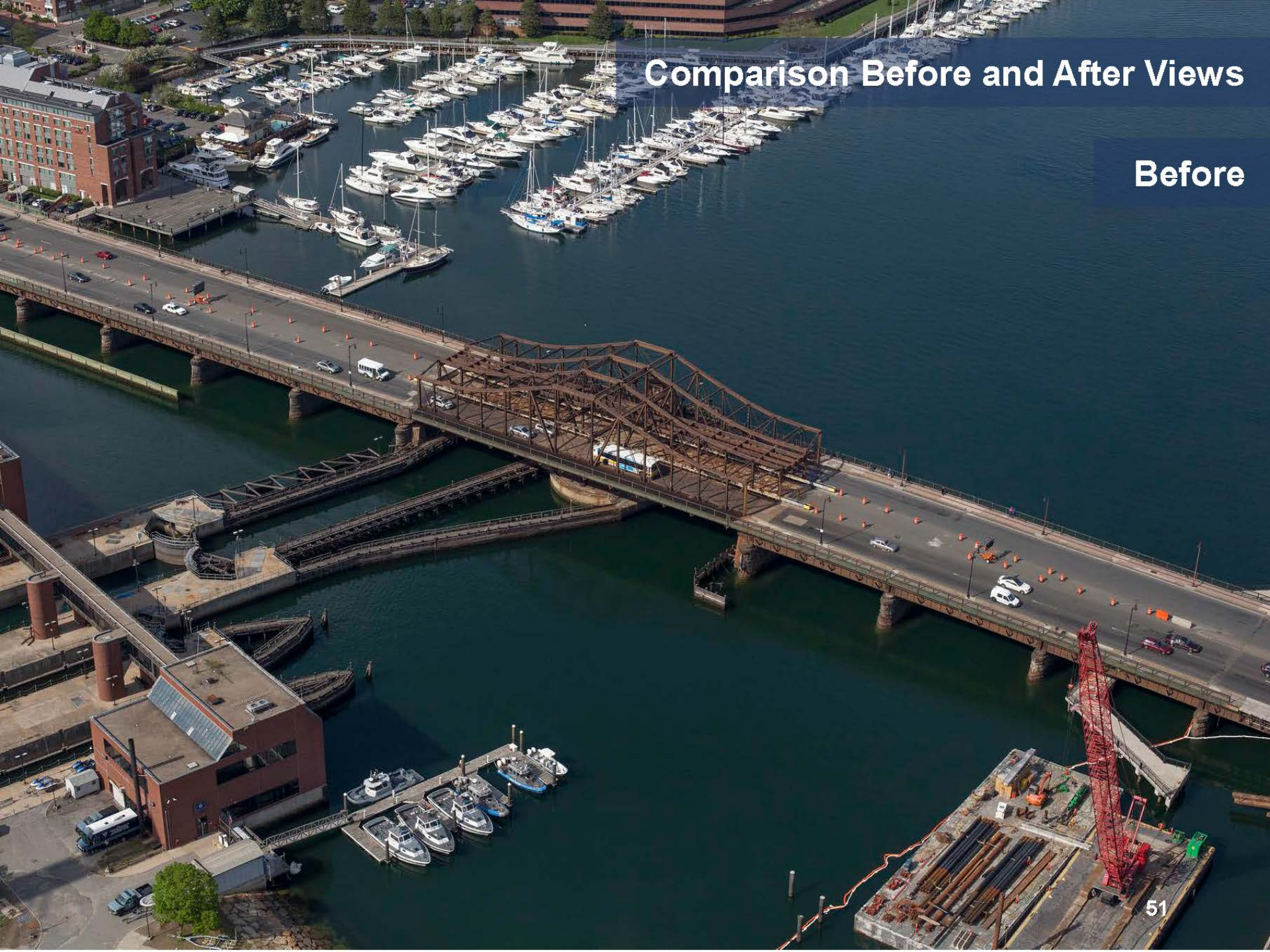
Detailed Plan at Paul Revere Landing Park

Detail Plan at Grade Separated Walkway

Grade Separated Walkway Elevation



Comparison Before and After Views




After


Before


After

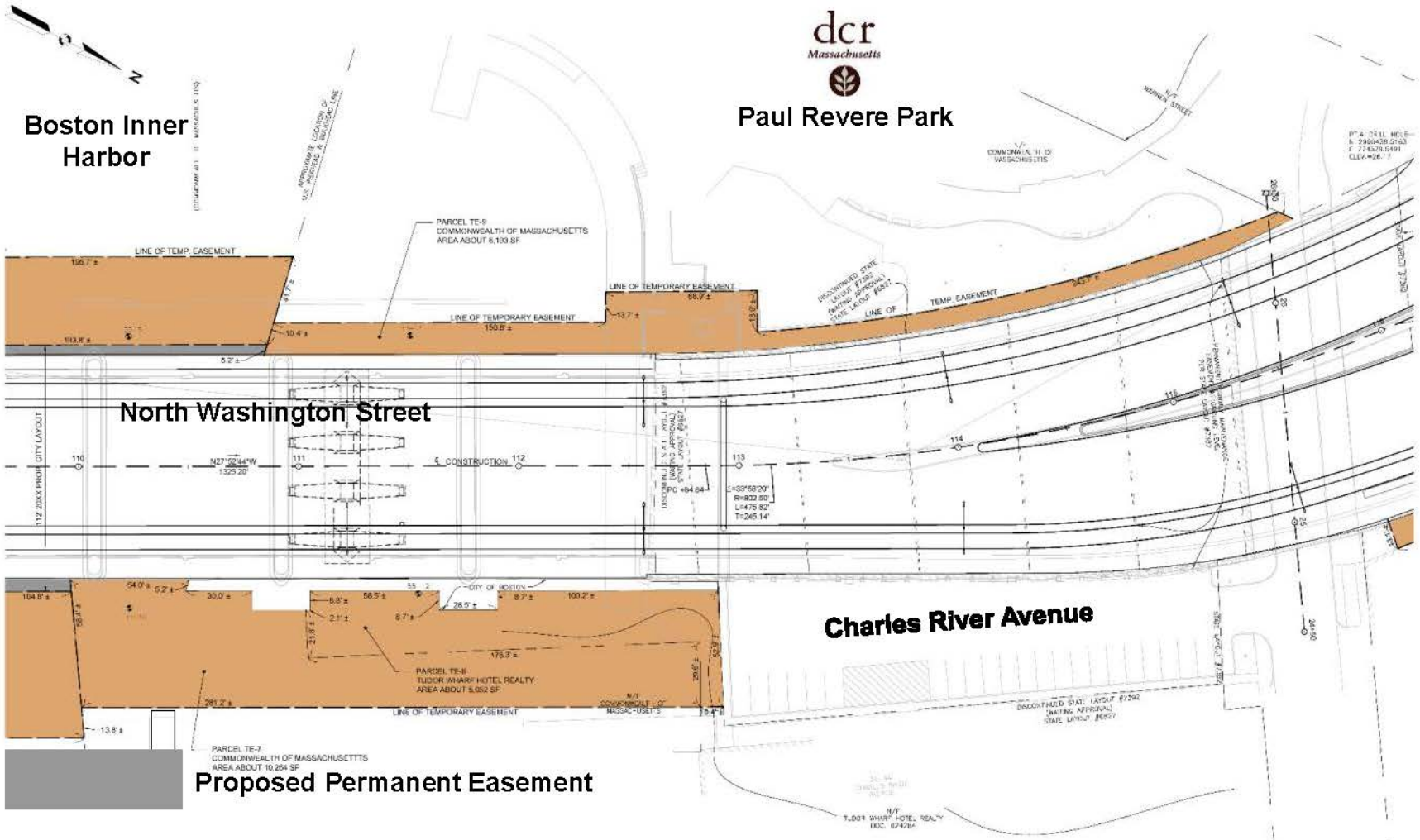

Before


After

Permitting

- FHWA is Lead Agency
- U.S. Coast Guard
- U.S. Army Corps of Engineers – Individual Permit
- Massachusetts Coastal Zone Management (CZM)
- National Marine Fisheries Service (NMFS)/Essential Fish Habitat Assessment (EFH)/Section 7 Consultation
- FHWA - Categorical Exclusion Determination (CE Checklist)
- FHWA - Section 4(f) de Minimis Impact to Park and Recreation Lands
- FHWA - Section 106 National Historic Preservation Act - Coordination with State Historic Preservation Officer and Boston Landmarks Commission
- MassDEP - Section 401 Water Quality Certification
- Water Quality Data Form (WQDF)/Stormwater Management
- Early Environmental Coordination Checklist (EECC)

Right - Of - Way Impacts



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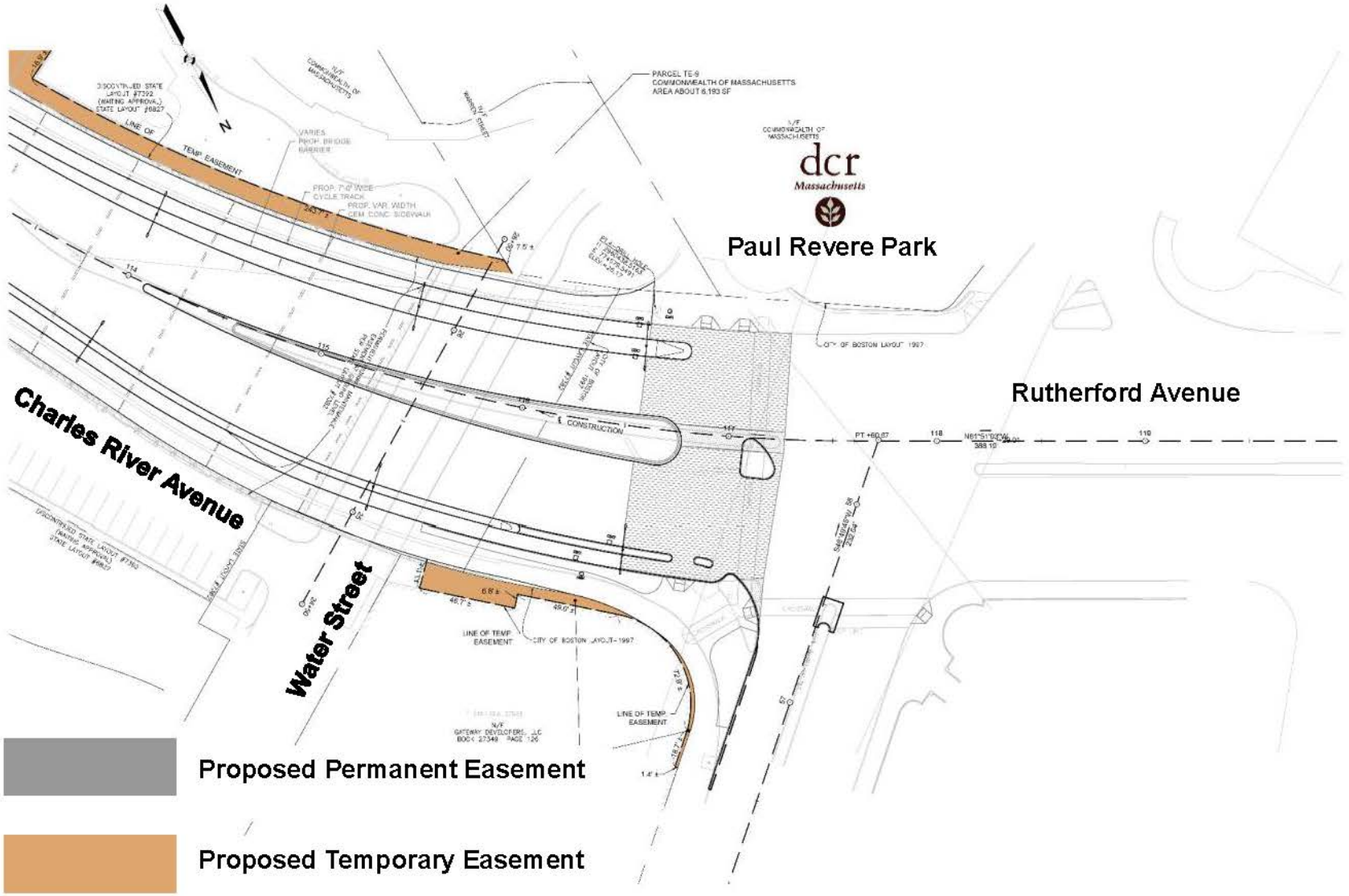
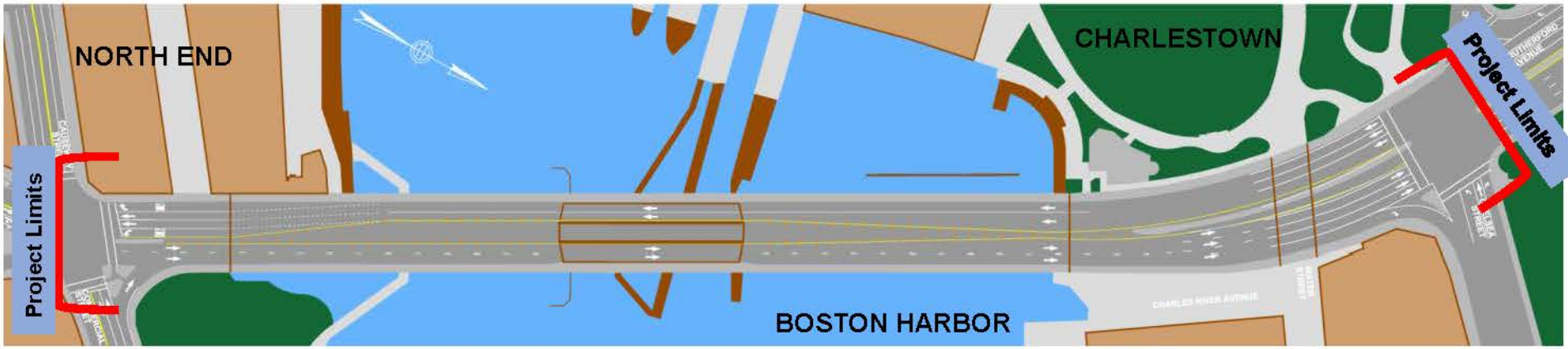
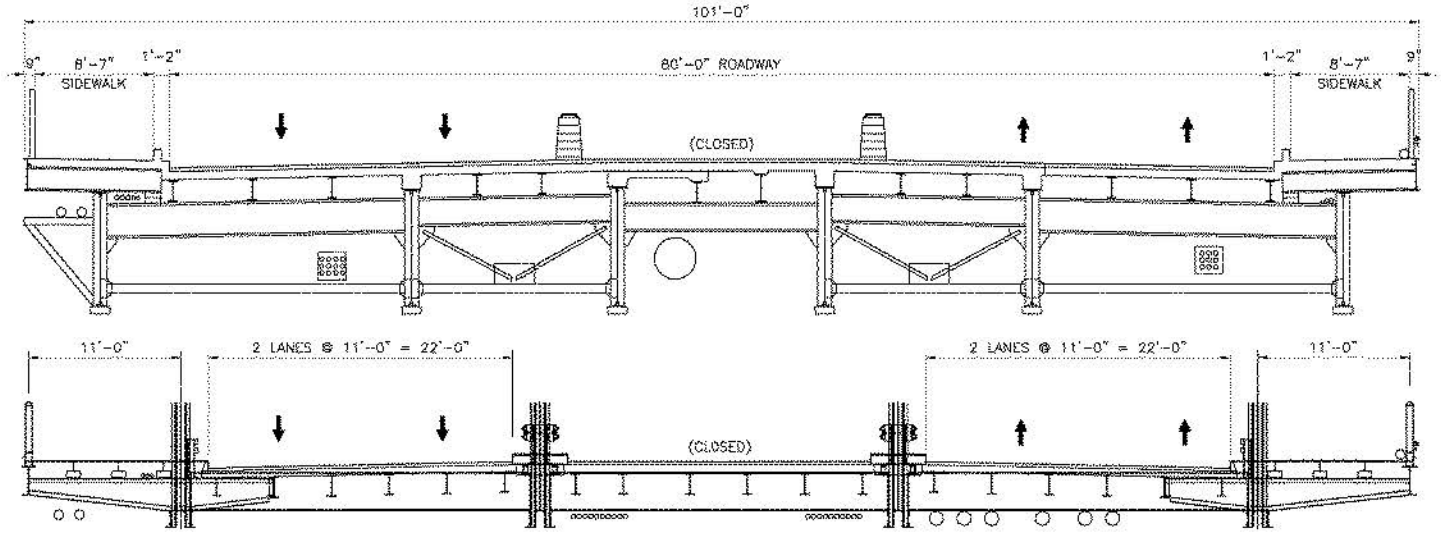


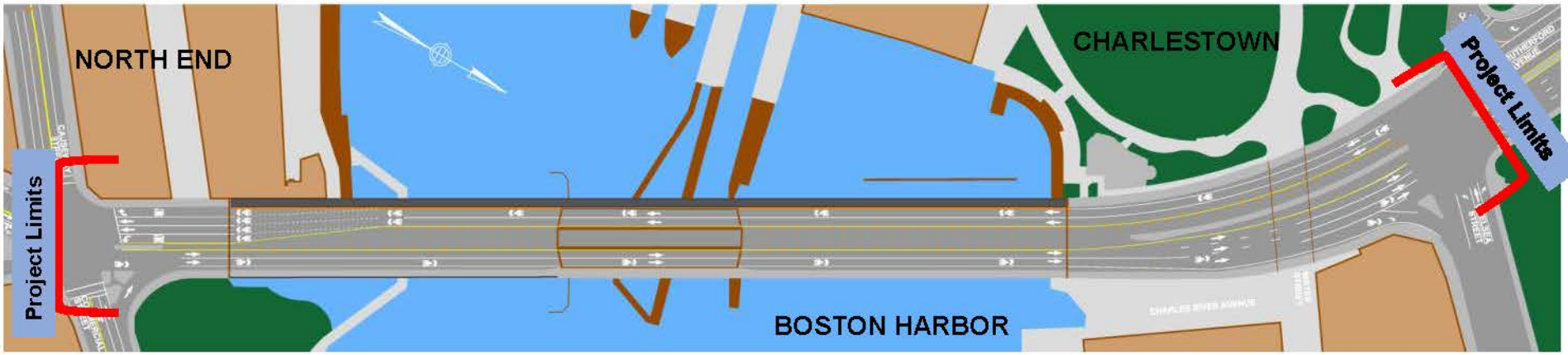
Construction Sequence and Traffic Impacts

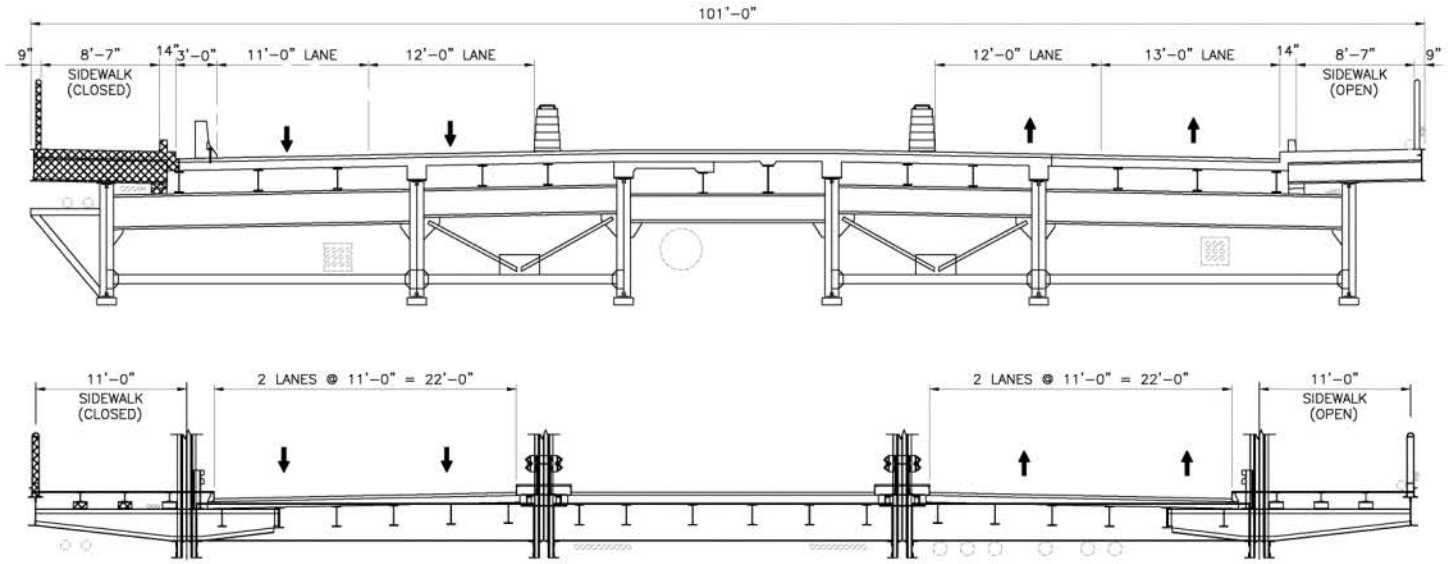




Existing

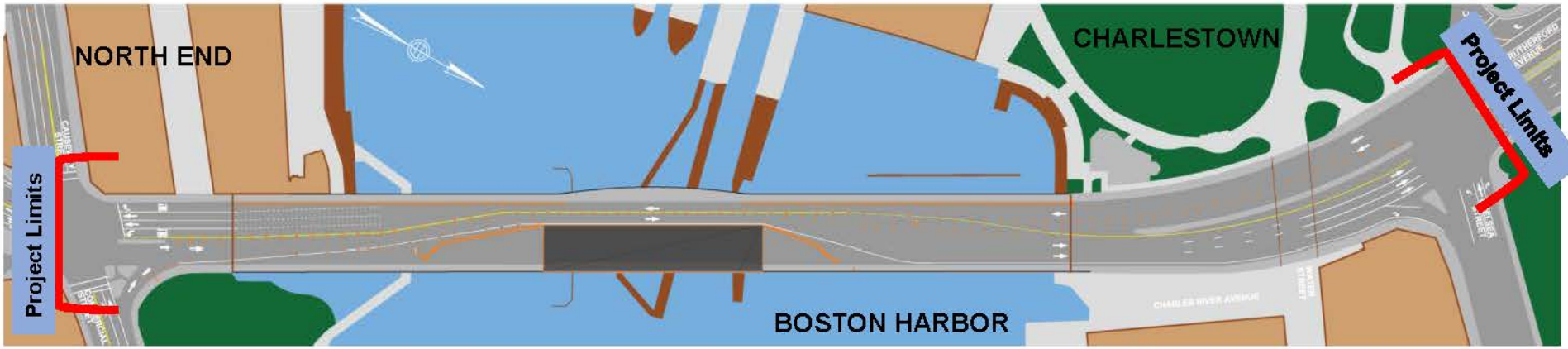
Construction Sequence and Traffic Impacts

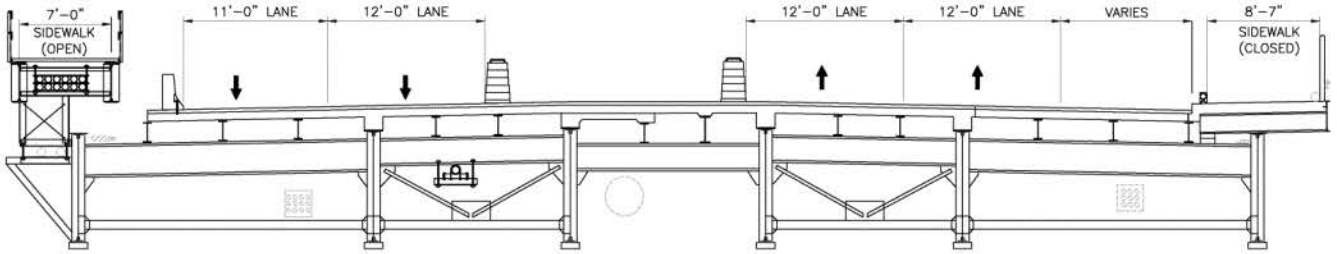


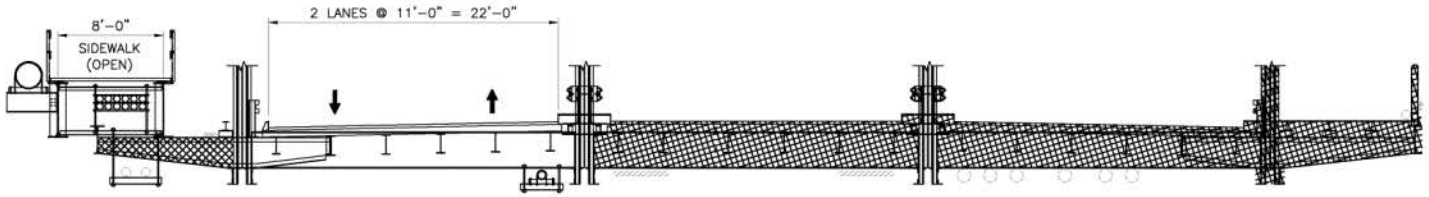


Stage 1A

Construction Sequence and Traffic Impacts

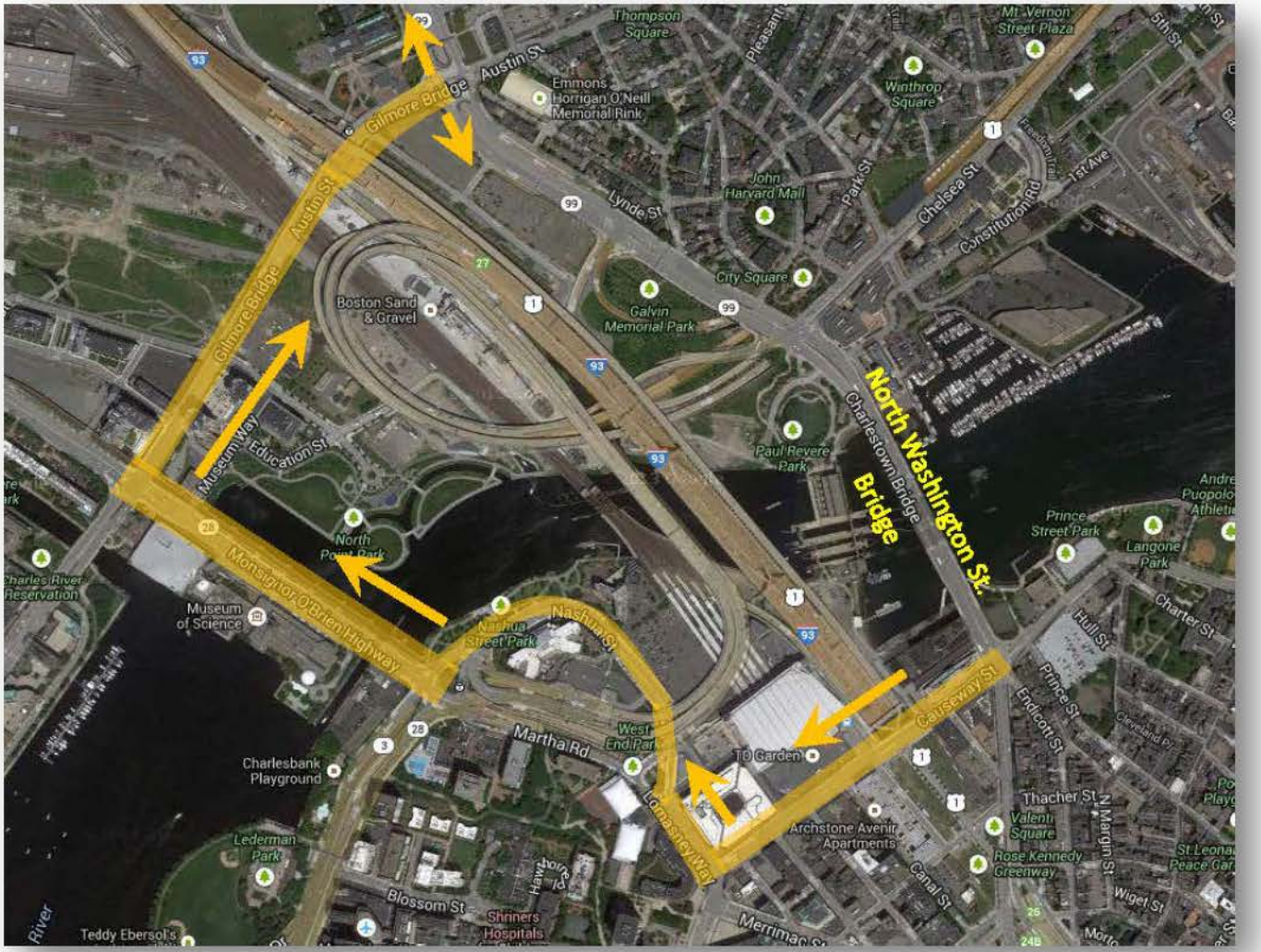






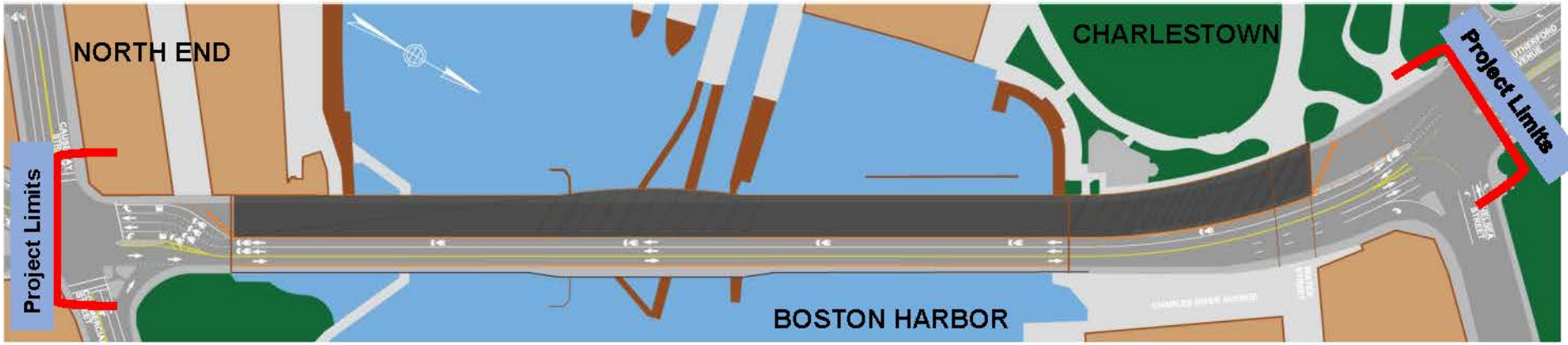
Stage 1B

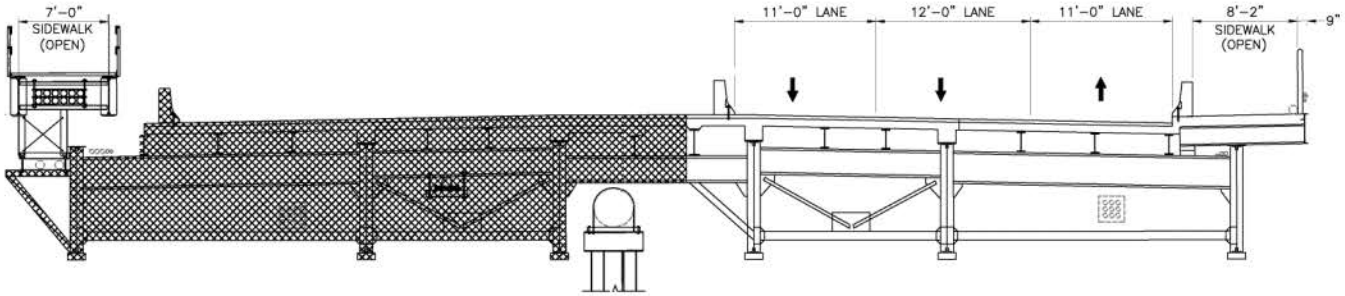
Construction Sequence and Traffic Impacts

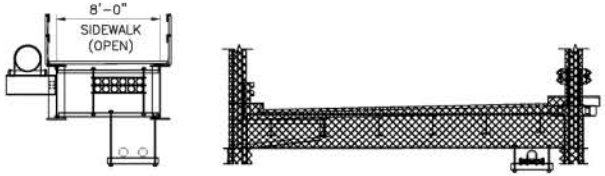


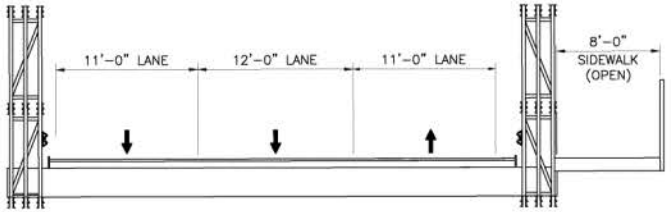
Stage 1B Detour

Construction Sequence and Traffic Impacts



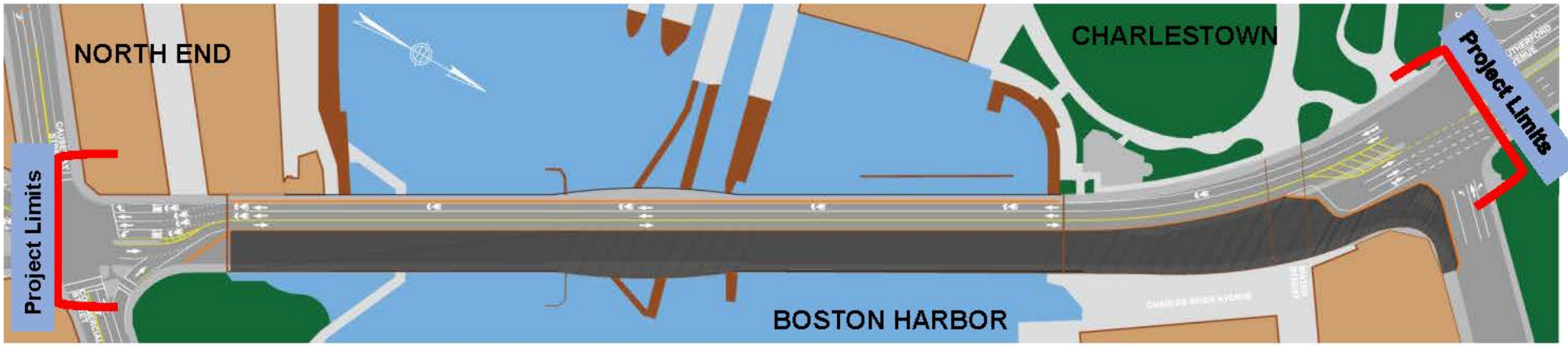


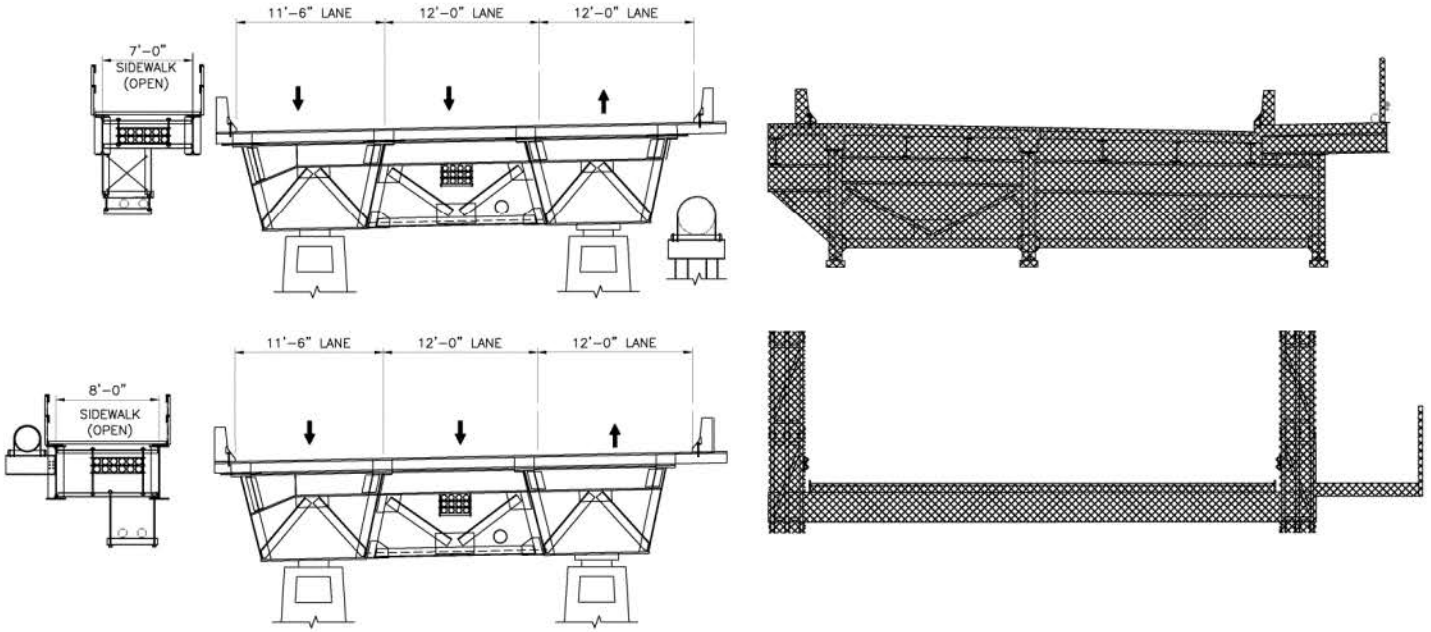




Stage 2

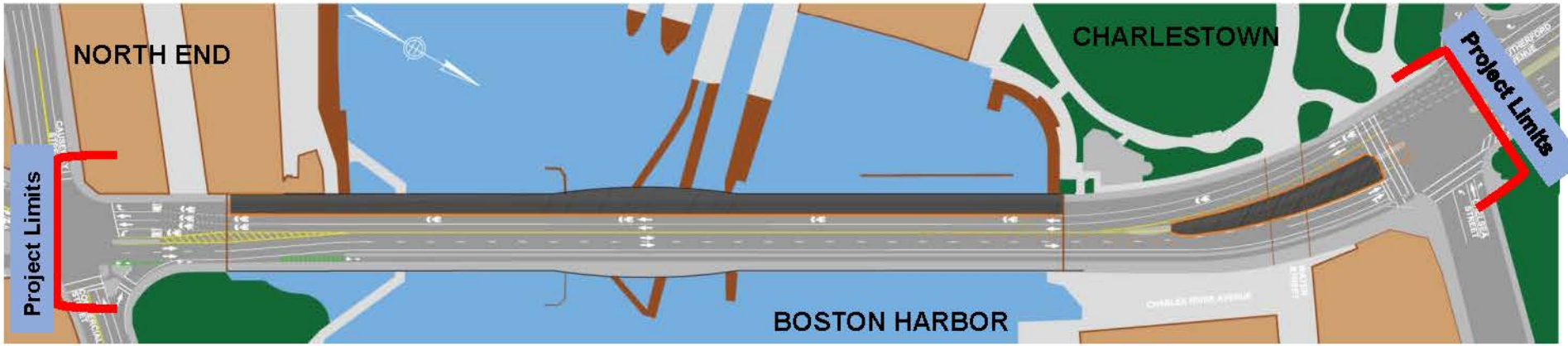
Construction Sequence and Traffic Impacts

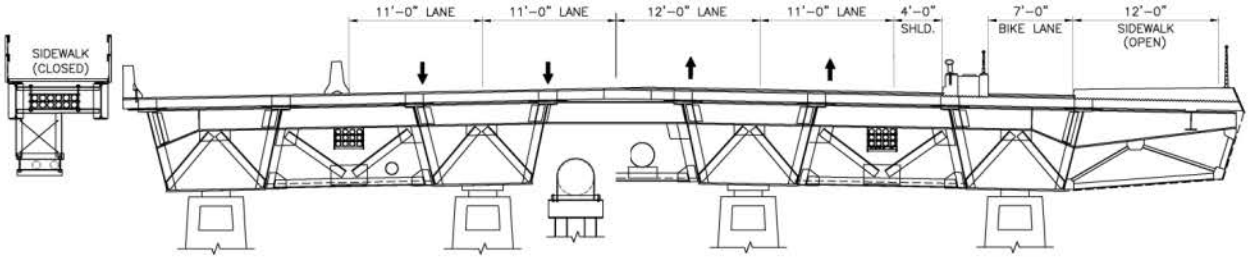


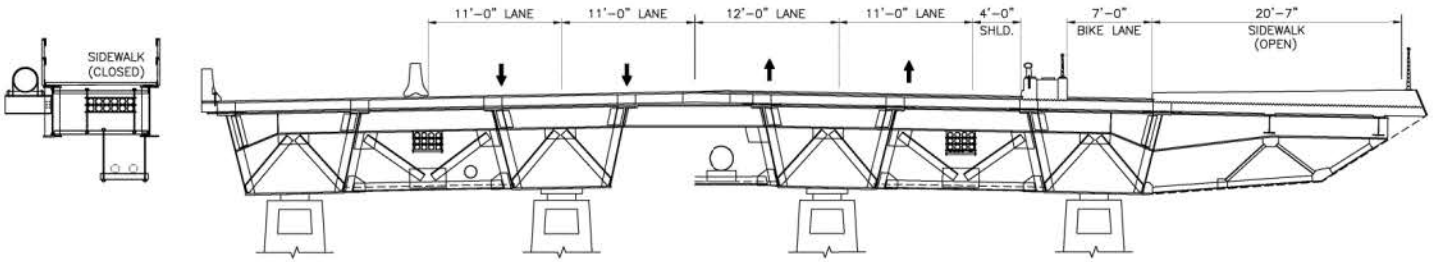


Stage 3

Construction Sequence and Traffic Impacts

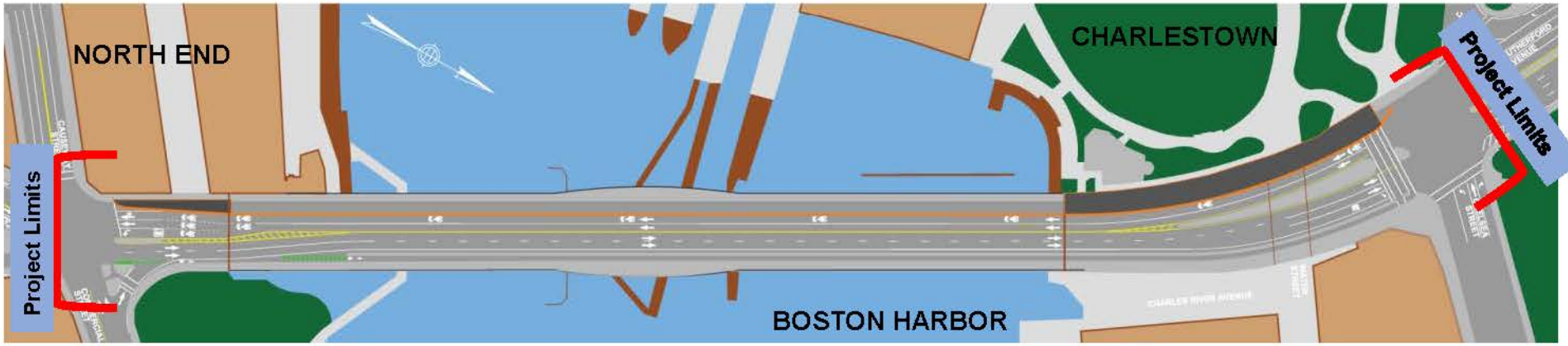


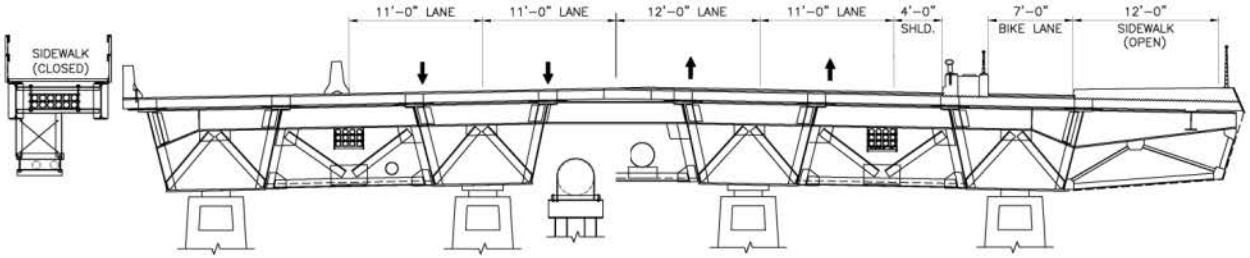


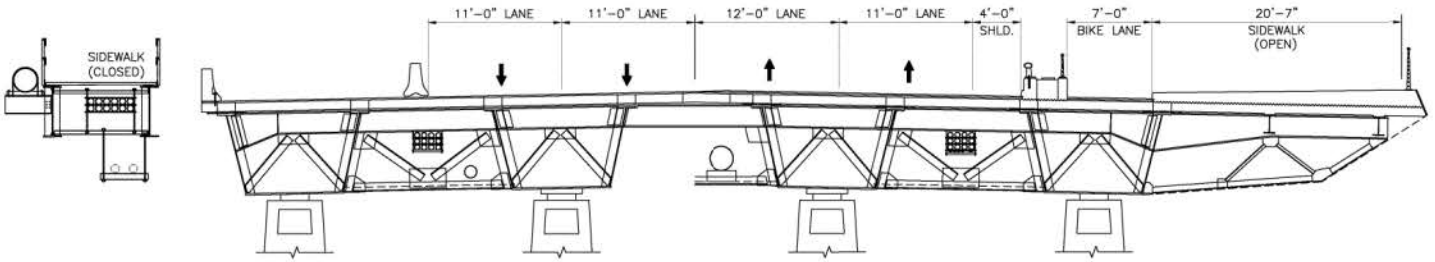


Stage 4A

Construction Sequence and Traffic Impacts

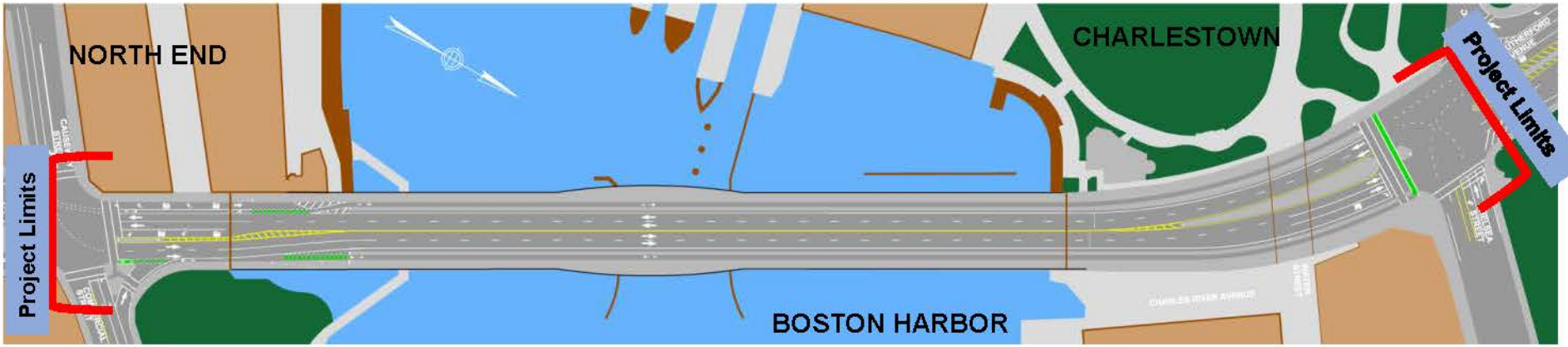


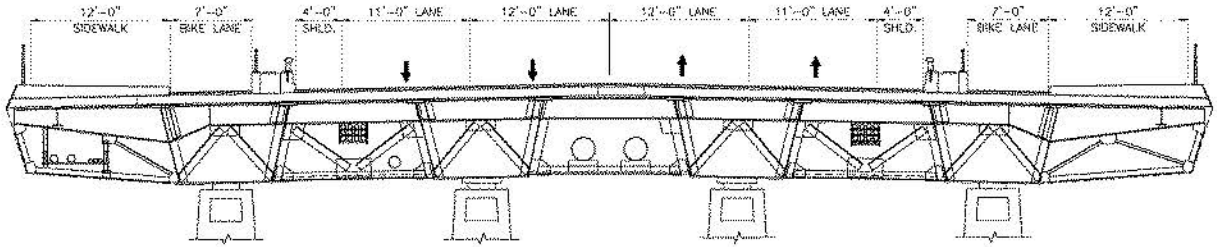


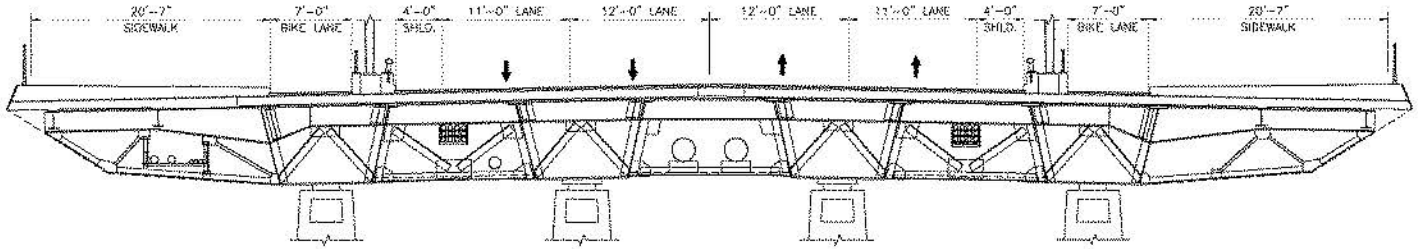


Stage 4B

Construction Sequence and Traffic Impacts







Final

Possibility for dedicated bus lane

Purpose

- Dedicated bus lane providing expedited service inbound
- MBTA and shuttles

Proposed Roadway Dimensions

- 57.5 foot roadway
- Two 11 foot lanes
- Two 10.5 foot lanes
- 10.5 foot dedicated bus lane
- 2 foot shoulders

Project Progress and Schedule

- Completed Conceptual Design: Spring 2015
- Preliminary Design: Fall 2015
- Environmental Permits: 2015 to 2016
- Final Design: Winter 2016
- Anticipated Construction Activity: 2017 to 2020

FAQ

Question	Answer
Could a water shuttle be implemented between Pier 4 and Converse Headquarters?	A water shuttle is not within the scope and budget of this project; this would be a private endeavor.
Could buses and trucks be detoured during construction?	At this time, buses and trucks will maintain access to the bridge during construction.
How will casino, TD Garden, and rush hour traffic impact movements in and out of Charlestown?	The proposed traffic management plan provides the best alternative given current and projected conditions.
Will two-week look-aheads be provided?	Based on previous MassDOT projects, anticipated that some schedule of look-aheads will be provided with targeted outreach at key times.
How will potential impacts to businesses and abutters be addressed?	The City of Boston and MassDOT will continue to engage in constructive dialogues with impacted parties.

Contact

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Patricia A. Leavenworth, P.E.
Project File No. 604173

MassDOT- Highway Division
10 Park Plaza
Boston, MA 02116

Public Outreach:
Elizabeth Flanagan,
Public Involvement Specialist

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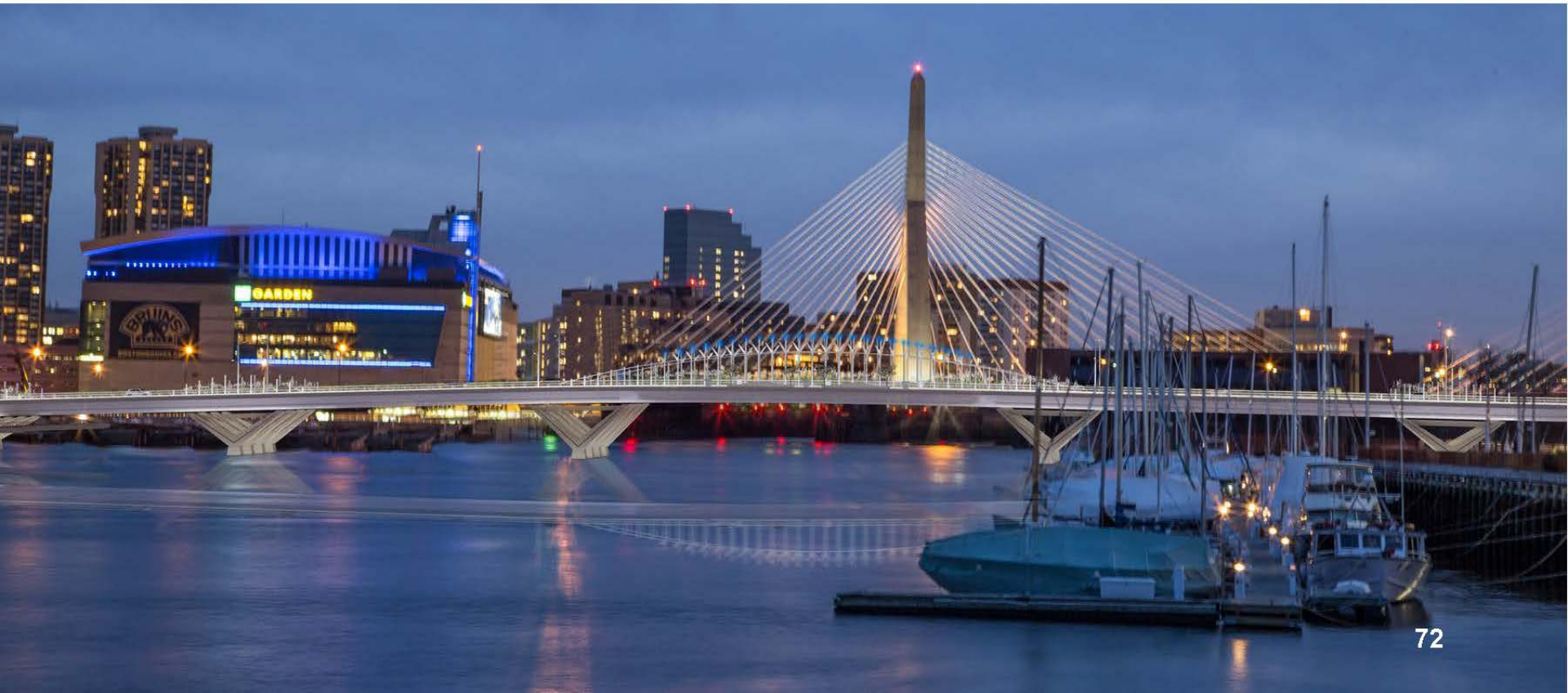
617-482-7080

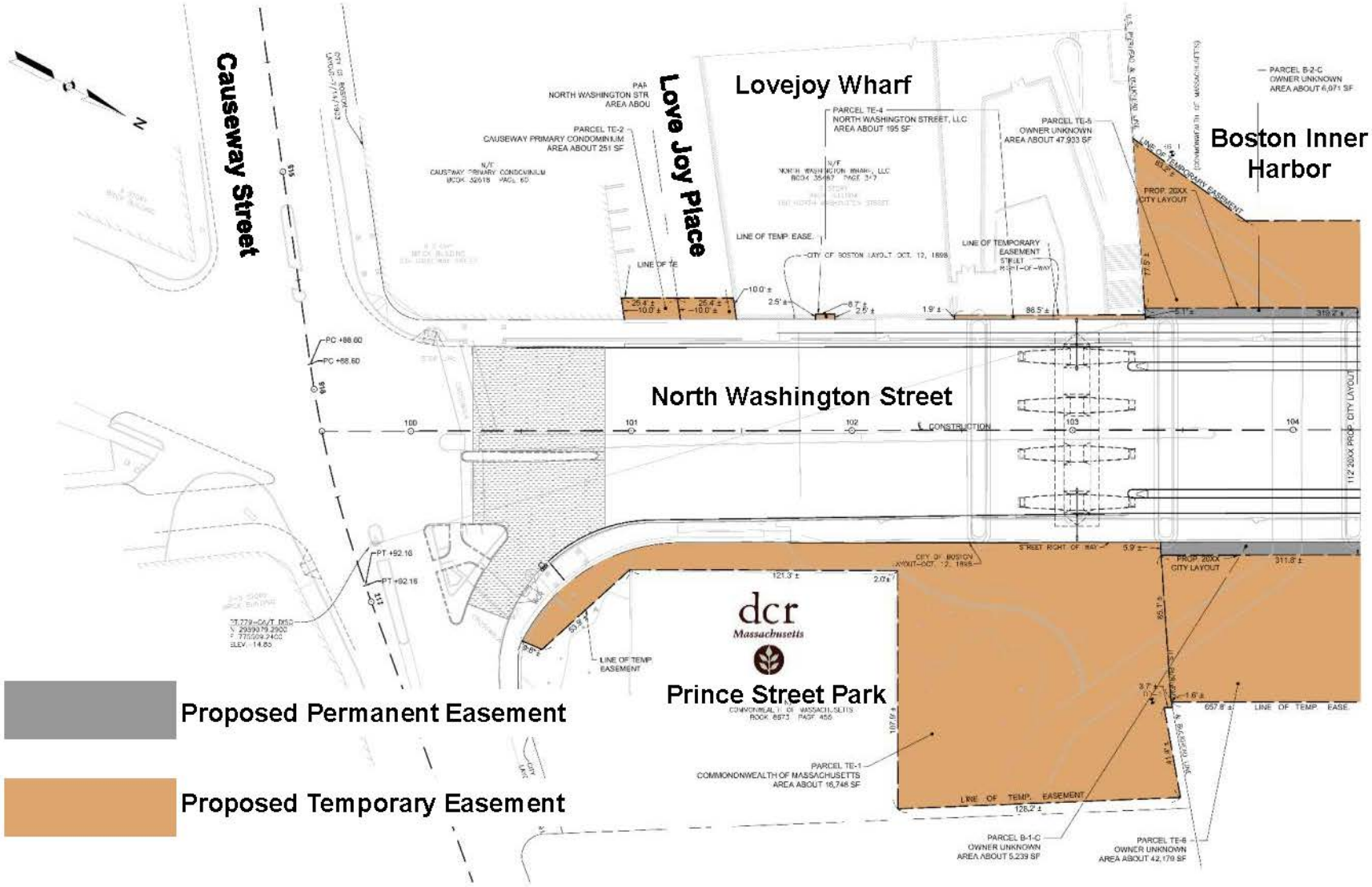


Thank you

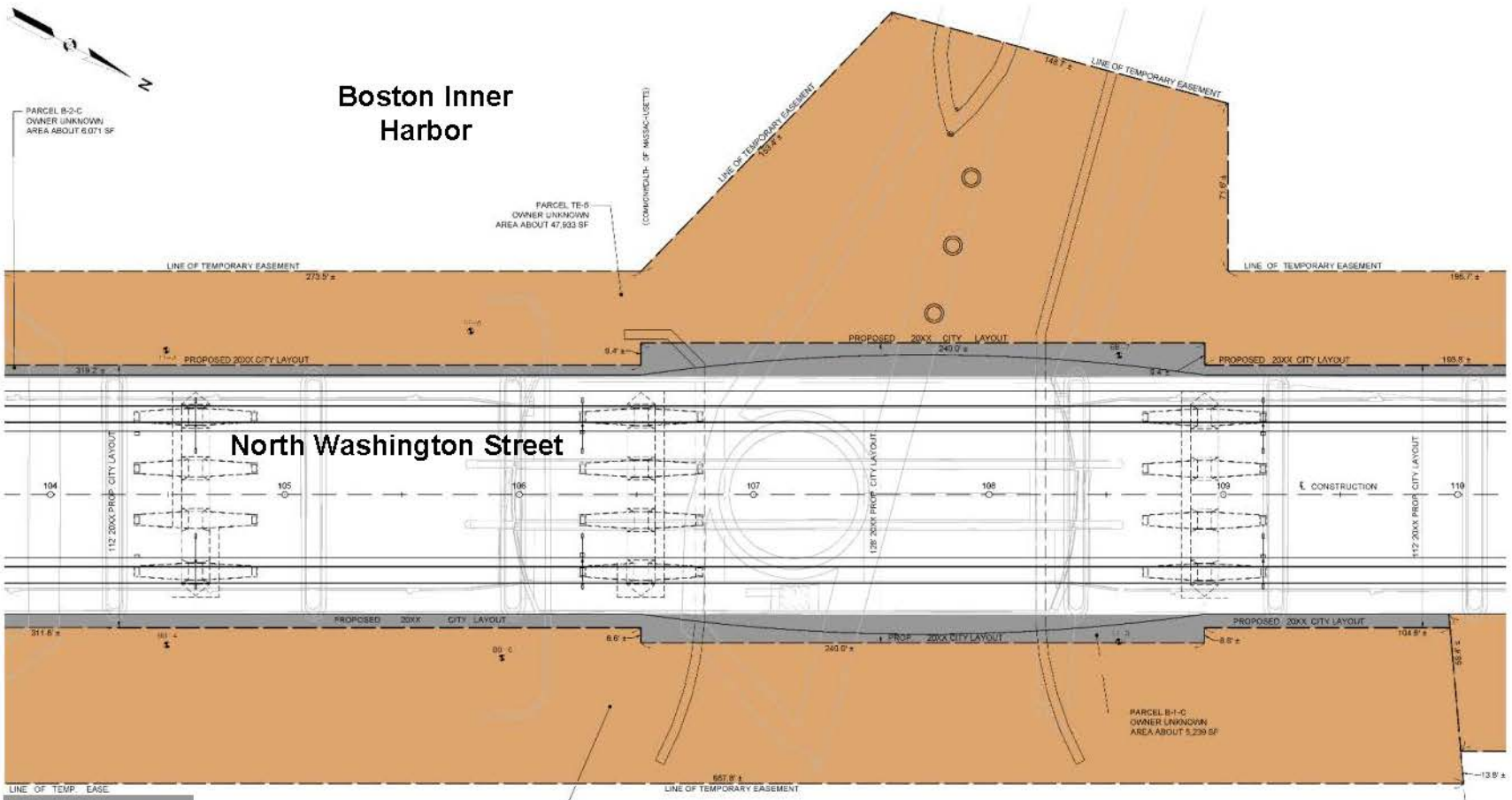
Q & A

North Washington Street Bridge Replacement Project
Boston, Massachusetts

Right - Of - Way Impacts



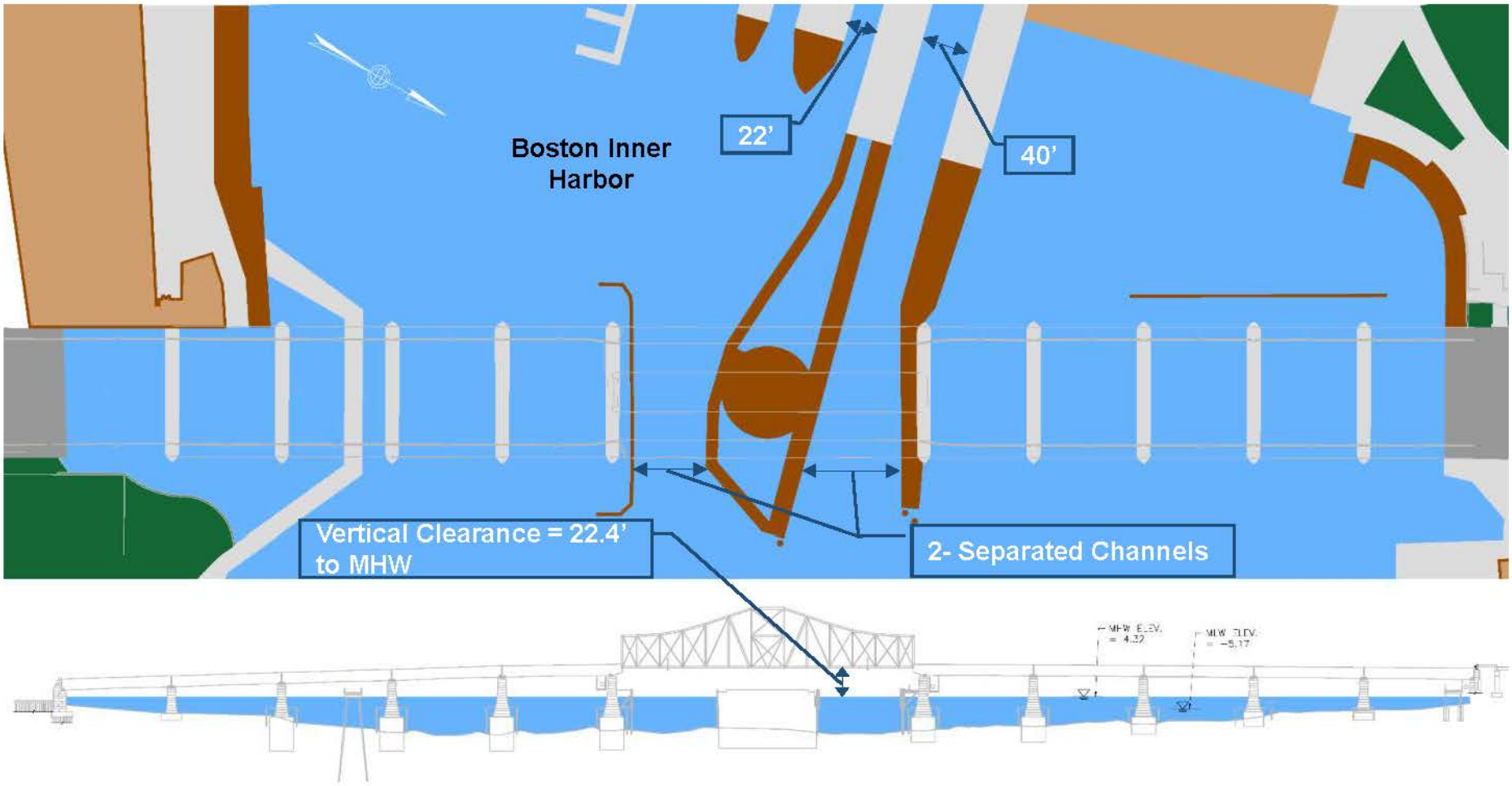
Right - Of - Way Impacts



Proposed Permanent Easement

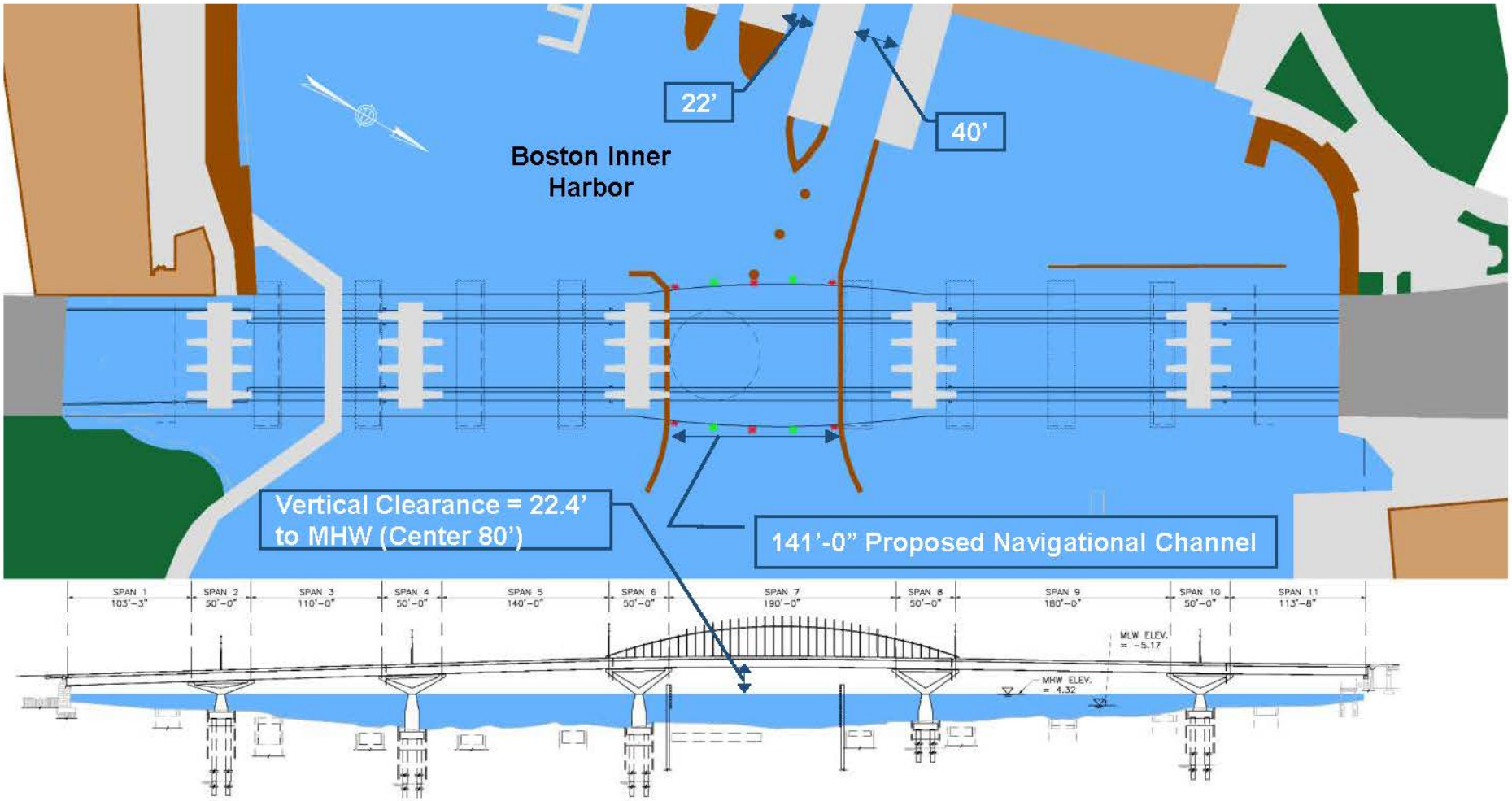
Proposed Temporary Easement

Fender System and Navigational Channel



Existing Fender System

Fender System and Navigational Channel



Proposed Fender System